The Builder.

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ILLUSTRATIONS.

The Imperial Gallery, Berlin.—Messrs. Kyllman & Heyden, Architects 1150
London Business Premises, Aldersgate-street.—Messrs. Lander & Bedells, Architects 1151

CONTENTS.

Paris: after Ten Years 1141
Marlborough House, and the Safety of the District in which it Stands 1143
The Value of Works of Art in Mediæval Italy 1144
Architectural Modelling in its Relation to the Architect, his Client, and the Public 1145
On the Antiquities of Killarney 1146
The Kaisergallerie in Berlin 1153
London Street Architecture: Aldersgate-street 1153
The Architectural Association 1153
"Articled Pupils."—Competitions: the President's Address, Architectural Association 1155
Engineering in Scotland 1156
Builders' Benevolent Institution: Anniversary Dinner 1157
American Institute of Architects 1158
The Telephone 1158
The Future Post Office and the Embankment 1158
The Artists' Rifle Volunteer Corps 1158
Society of Arts 1159
Proposed National Testimonial to Mr. Allport: the Policy of the Midland Railway Company 1159
Unsanitary "Model" Buildings at Peckham 1159
Certificates 1159
Manchester Baths Competition 1160
The Masons' Strike in London 1159
Pittcroft's Monument 1160
Architects' Actions: Pugin and the Eastern Counties Aquarium Company 1160
The Design in Cleopatra's Needle 1160
The Architecture of Lighthouses 1160
Dispute as to Water Supply: Oldham v. The Corporation of Leamington 1160
Re Graving Dock, Blackwall 1160
The President's Address: Institute of Architects 1160
The Water Supply of London 1160
Miscellanea 1160

Paris: after Ten Years.

A CERTAIN French novel, written during the latter half of the last century by a Keeper of the Medals in the Cabinet of the King of France, may be recommended not only to young men who have entered the ranks of architects and engineers, but to the public. Translated into elegant English, it had much to do with the enthusiasm felt in this country for Grecian art after the long war with Napoleon. The "Travels of Anacharsis the Younger in Greece" are, we make no doubt, unread if not unknown among the art-students of to-day. Yet passages penned a hundred years ago by the Abbé Barthélemi read almost as if they had been written by one whose mind, superior to the shock of recent events, acknowledged the useful lesson they offer. The book to which we refer was begun in 1757 and given to the world in 1788. At the close of the historical introduction Barthélemi says:—"Greece, after enjoying for some time a prosperity that increased her power, fell into a state of dissension which gave a surprising degree of activity to every mind. She beheld wars and victories, riches and luxury, artists and monuments multiply at once within her bosom; the festivals became more splendid, public spectacles more common; the temples were covered with paintings and the environs of Delphi and Olympia with statues. On the smallest success, piety, or rather national vanity, paid a tribute to industry, excited likewise by an institution which turned to the advantage of the arts. Was a public square or a public edifice to be decorated: several artists treated the same subject; they exhibited their performances or their plans, and the preference was given to him who united the greatest number of public suffrages. The Grecian cities assumed a new appearance, after the example of Athens, which surpassed them all in magnificence. Pericles wishing to give employment to a people formidable to their chiefs in the inactivity of peace, resolved to dedicate to the embellishment of the city a great part of the contributions furnished by the allies to support the Persian war, and which had been hitherto kept in reserve in the citadel. He represented that by throwing this wealth into circulation it would procure to the nation an abundance for the present moment and immortal glory in futurity. The shops of artists and the public places were instantly filled with an infinite number of labourers and mechanics. Works which a great empire would scarcely have ventured to undertake, and which seemed to require a long space of time for their completion, were completed by a little republic in a few years under the administration of a single man, without either suffering in their elegance or their solidity by such astonishing diligence."

Writing, as we propose about the French Capital, we may be excused for making the preceding quotation from a work, fictitious, though founded throughout upon classical authority,—a quotation having reference to Athens and the Athenians, in the fifth century before Christ, but equally applicable to Paris and the Parisians nearly a hundred years after it was written. Indeed, the cant of historians has always had a tendency to qualify the rise or restoration of cities at all times, and in all countries, with the word "magnificence." Bishop Sprat, addressing the Sons of the Clergy on the 7th November, 1678, went even a little further. He described London before the Fire of 1666 as "a great and magnificent city," which in a short time after the fire "not only excelled itself, but any other city in the whole world." Others have told how Rome, built of wood and shingles, and levelled with the dust by the Gauls, rose from its ashes "more magnificent than before." Chicago and Boston have probably had, perhaps with greater justice, equally grand things said of them since the reconstruction of their public and private buildings. But he who described the citadel of Athens rising after the Persian war more magnificent than before, said what we know or feel must be true, for more than one temple had stood where the Parthenon now stands; and a hundred temples, one only a little less perfect than the other, must have been erected before the perfection which the ruin on the Acropolis exhibits, could have been attained. Nor can the most patriotic defender of order and national tradition, the blindest opponent of free land and the repeal of privilege, dare to deny that, during the space of nearly a hundred years, Paris has risen from periodical disaster a healthier and more beautiful city than before.

Ten years ago, while crossing the Champ de Mars, which was then occupied by an industrial temple of iron and glass, two English gentlemen were discussing the wisdom or folly of that great exhibition. "Think," said one, "what this amusement of half a year costs!" Said the other:—"Not so much as even successful war costs in a sixth of the time." Paris, in the highest state of elation, was then nursing recollections of French victory accomplished in Italy, China, Algeria, and Mexico. The Parisians, admiring the audacious presence of Bismarck and the King of Prussia in their Capital, kept both eyes directed towards the Rhine. M. Thiers was making and meditating speeches which had and could have no other end than to popularise a war with Prussia. But that peaceful show, encamped in front of the chief military school of France, overcame every hostile anticipation. Then Paris, the recognised centre of Europe, entertained the sovereigns and princes of the Continent. It was so far the crowning triumph of the Empire, and the triumph was one of peace,—a novelty to France; a still greater jubilee would therefore follow, so it was thought, in a path with which the nation was familiar and sure of the goal to which it led. War came; revolution followed. The Parisians, shut up for months, never redeemed the character they displayed at the first—not blush,—but rage of defeat. They sought to efface within themselves the memory of rulers they contemptuously discarded, rather than show, to the world without, their power to rule themselves. For a second time this century Paris was dishonoured by the tread of a foreign army. In the bitterness of defeat, in the confusion of untrained political party, in the general despair, murder and robbery were perpetrated under the sanction of so-called authority. The Capital expiated in flames the follies of which it had too often boasted. Public buildings, linked with the historical triumphs of centuries and the names of great Frenchmen, were saturated and fired; for a time streets of private houses, systematically heaped with fodder for ignition, contributed to the bonfire made by a foolish minority. A painter who, the author of trashy canvases, had known how to paint a few excellent pictures, assisted in the destruction of the Vendôme Column. Without the smallest attempt at exaggeration, it is certain that the horror felt during those few days made some men mad, and sent others to a premature grave. More than six years have elapsed, and in spite of much that would willingly be believed to the contrary, the Parisian of even the lowest class is a calmer and more reflecting member of the community. "You in England must laugh at us," said a French gentleman to his English guest just before the recent elections; "we are always doing things in politics which must appear ridiculous to so well-governed a people as yourselves." But, the Englishman replied, "Then you shall laugh at us when I tell you that, in spite of order and prosperity, and apparent general harmony; in spite of a Parliament said to represent the nation, and of a system of municipal government said to be the very foundation of representative institutions; in spite of the whole four estates of the realm urging, and even attempting, practical amelioration and reform, we can no more improve London as you have improved Paris; make Manchester, with all its wealth, assimilate to Lyons; Liverpool, with all its commerce, to Bordeaux; or Southampton, with all its ships, to Marseilles, than we could desert,—you must forgive the harsh insinuation,—our sovereign in the moment of supreme national disaster. We are simply astounded, not so much with what has been done, as with what is actually doing; with the private houses in course of erection; with the streets of new buildings that you have in hand. Our own wealth, enormous as it is, seems to diminish before the evidence of individual success among

all classes of Parisians now in Paris, and which a visit to your city discloses."

Yet the traces of the last civil war have not entirely disappeared. The centre block of the Tuileries, facing the gardens, still remains in ruins; it partly lines the new street which runs across what was the private garden of the Emperor,—a street which connects the Rue de Rivoli and the new Avenue de l'Opéra with the bridge over the Seine, leading to the Rue du Bac. Those ruins would have been pulled down had it been possible to decide whether any kind of palace should occupy the site. The evident intention seems to be to open the Place du Carrousel to the gardens and the Place de la Concorde, and thus the great irregular square, formed by the newer parts of the Louvre and the lateral pavilions of the Tuileries, will have one of its sides entirely free and exposed; an iron railing will probably enclose the old Place, which was named after the Carrousel of Louis XIV. in the year 1662; the triumphal arch now in the middle of it will be visible from that on the hill of the Champs Elysées; and the only obstacle in the long vista between them will be the obelisk of Luxor in the Place de la Concorde.

From the last-named, near the river-side, the scaffolding on the Trocadéro stands out in relief against the horizon. This, however, is not, as many English people have imagined, the Great Exhibition Building. The rising ground, leading up from the Seine,—at the close of the Empire symmetrically arranged with streets on either side and a wide, stepped ascent in the middle,—which exactly faces the Champ de Mars, has been devoted by the Republic to a purpose of which the Empire probably dreamed, but had not the temerity to attempt. The Palace of the Trocadéro is to be a Temple of the Arts, a permanent building, which will be to the Parisians very much like what the Crystal Palace used to be to the Londoners, with this exception, that the Trocadéro is within an easy cab-fare of the Boulevard. The view published in the *Builder** necessarily gave but a faint idea of the work; its size, circular form, and extended façade cannot be shown in a half geometrical sketch such as was then to be thankfully obtained from the architects' designs. These gentlemen, MM. Davioud and Bourdais, are attempting to reconcile Paris to a departure from the severity of Classical traditions. Coloured materials, which jarred a little at the time of their introduction in the exterior of the Opera-house, are not only lavishly used at the Trocadéro; they are used in the Oriental fashion. The alternate lines of red and yellow which, in Cairo, in too many cases, are only paint, M. Davioud and his colleague have obtained with small square stones (*moëllons piqués*) and a hard red stone, called marble, which is brought from the Jura. A great deal of "*échaillon*," one of the most expensive stones brought to Paris, is also used. The stone-work of the cascades and basins in front of the Rotunda or theatre forming the centre is of the most massive construction. This Rotunda will probably be the "Albert Hall" of the French metropolis.

A week or so ago the minarets shown in our view made no great sign of exceeding in height the circular wall between them. The sculptors were then at work on the capitals of the square neo-Greek piers supporting long galleries, which, in the form of a quarter of a circle, bind the two end pavilions with the main building. A great deal of framed iron is used in the roofs, and the rolled-iron joists, instead of being filled up with *plâtras*, are consolidated with hollow bricks. Similar bricks are used in the vaults and arches, and rolled joists are laid at intervals in the vaults. In parts of the external façades the Jura marble is used simply as decoration; the arches, built solidly of stone, have been cut into, and the red Jura marble inserted. This is a practice not much more excusable than building a house of solid stone, and letting in bits of bricks to give it the appearance of a brick and stone building. In the Palace of the Trocadéro little attempt has been made to economise materials: it bids fair to astonish as much by its size and by the novelty of its arrangement as by the extreme refinement, in parts, of its details. All the work is being proceeded with at once: rockeries at one side, plantations at another; fountains here, roads there, are all going on at the same time with the stone and ironwork of the building itself. The glazing of one circular gallery was barely finished when the Italians had begun the mosaic pavement,—of a kind introduced some twelve or fourteen years ago, and which has recently found its way, like many other similar novelties, to this metropolis. We confess to have watched the progress of the new palace during two or three visits with some interest and astonishment. The energy, the activity of the workmen, and the evident indisposition of the foremen to be beguiled into conversation with strangers, formed a new phase of Parisian existence. When talking, though, of the Trocadéro, one or two architects and equally thoughtful observers shake their heads and doubt, English-like, whether it can possibly "pay." Its rise, its progress, is, after all, national vanity—or piety, as Barthélemi called it—and the Palace of the Trocadéro, unlike Versailles or St. Cloud, of bitter memories, unlike the many castles of Royal France, is essentially the Palace of the People.

Its immense extent is seen to advantage from the centre of the Great Exhibition Building on the opposite side of the river. The many rings of iron, the many radiating passages, which formed the Exhibition of 1867 are nowhere to be seen in the skeleton of that for 1878. Nor is the skeleton all put together; externally the building has not yet assumed its proposed shape, and the activity on the opposite side of the river contrasts with the apparent tranquillity of the huge cover to the great military parade-ground of Paris. Facing the Seine a large inclosure seemed comparatively finished; matched-boarding very much like the familar deal of insular commerce; something of a "boiler" type of iron-architecture; yes, a notice in true, official characters was there. It was part of the British section; it suggested to us that of the many ways in which this country can show its neighbourly appreciation of Paris, London can hardly do better than go in a mass once more to the banks of the Seine. All those who retain pleasant remembrances of '67,—and in England their name is surely legion,—may next year possibly renew them. Painters, sculptors, and members of our own profession will thus acknowledge in some measure the obligation due from every artist to the Capital of the arts.

The two great works of one year,—this current year,—comprise the construction of the Avenue de l'Opéra and the completion of the Boulevard St. Germain. The one runs from the New Opera House through what was once the most crowded part of Paris; the other joins the Palais Bourbon,—that is, the building used by the Corps Législatif before the fall of the Empire and facing, from the opposite bank of the river, the Place de la Concorde,—to the Place de la Bastille.

As we explained in an article in October of last year,* the purchasers of land on the new Avenue were bound to complete their houses by April, 1878. The City of Paris was only authorised to issue the necessary loan for the making of the Avenue de l'Opéra on the 27th of June of last year. The street is not only made, the stone line of frontage is even built. Most of the houses are already roofed, and in some, sculptors are already chiselling the heads of windows and the foliage of scrolls. Carriages, heavy wagons, cabs, and foot-passengers, jostle the workmen through the whole day. Few Englishmen who will perhaps pass along this newest Avenue next summer will know how much life it has given to the heart of Paris. Cut deliberately through the lower portions of the original Butte des Moulins,—the dust and refuse heap of, we think, the Mediæval city,—some of the houses in and around the Avenue have been built within the earth, as it were; they have risen even before the level of some old roadways was disturbed. As we passed, one side of the Church of St. Roch stood on a cliff; not far off, the Italian Opera-house stared grimly from its still more uninviting square. "The New Street of the Little Fields," where Thackeray drank his Bouillabaisse,—and of which he afterwards told in a pretty little ballad, concealing just a glimpse of his early domesticity,—is traversed at its narrowest part; and any one who may have lost himself a few years ago in some of the narrow alleys, with a sole gutter running down the middle, now disappeared, may well marvel at the true magnificence to which they have succumbed. In one ordinary building, fronting the Avenue, partly in the Rue St. Roch and the Rue d'Argenteuil, the sum of 80,000*l.* is said to have been expended in less than six months. The proprietors of the "Gagne Petit" are building an enormous store or general shop, which is approached through a broad archway from the new Avenue. They expect very feasibly to recoup themselves for extravagent façades by the numerous sets of *appartements*, or superposed houses, which are to cover their enormous shop. M. Tronquois is their architect, an architect whose admitted talent in planning houses of this description is equalled by the skill with which he has varied façades of almost similarly arranged openings; for, much as it may be doubted by superficial observers, hardly one new house in Paris is the copy of another. In almost every new balcony the consoles supporting it, and the mouldings round it, have been specially designed. We failed to remark even two out of a score of carriage-entrances (*porte-cochères*) exactly similar.

Further westward, in some of the new houses near the Boulevards Haussmann and Malesherbes, the comfort and luxury introduced into the *appartements* are of a marked character. In one new house just commenced, and the plans of which were offered for our inspection, every possible innovation is contemplated. The site, of course, is freehold; its proprietor,—of both house and land,—proposes to occupy the Entresol, which is to be 3 m. 80 c. high, that is, about 12 ft. 6 in. English. An annual revenue of 800*l.* is anticipated from the first-floor house. There is, of course, a hydraulic "*ascenseur*" and a service-lift besides. There are no shops, and the whole building would in this country be deemed a foolish speculation. Hard by, other houses are rising, or are just finished. In one the rents, exclusive of taxes, are:—

First-floor house	400*l.*	per ann.
Second-floor ditto	360*l.*	„
Third-floor ditto	320*l.*	„

The principal staircase is not large; its polished treads are carpeted, and the effect of luxury is maintained from top to bottom with scrupulous care. The proprietor undertakes to keep an apparatus specially to warm the staircase, as well as the hall and serving-room of each house on each floor. His house has cost him about 40*l.* the square mètre, and his revenue from it is about 5 per cent. per annum. Yet the gentleman has been a Contractor of Public Works!

In another block now in course of completion, we saw the horizontal system of house accommodation carried to the extreme limits of prudence, and we think also beyond the bounds of wise economy, both as regards plan and expenditure. Stables are there arranged on the cellar floor below the level of the street and courtyard. An inclined plane leads to them; it must, however, be owned that the horses are provided with quite as much ventilation as is often obtained in a London mews, for besides large window openings there is a shaft from each stable leading to above the roof. Each tenant of each floor has a stable, a coach-house, a saddle-room, and a corn-bin allotted to him. The dung is raised to the street level by a lift, and in the same shaft the forage is lowered. The service of each superposed house is contained in one kitchen, one serving-room, a few closets, and one servant's bedroom. Rooms in the roof afford sleeping accommodation to the rest of the servants. This block of houses possesses three *fosses* or cesspools; and we had the honour of entering one while operations for which a *fosse* is specially intended were proceeding. First an ordinary wooden door was opened; we found ourselves in a narrow lobby, and it should be understood that this *fosse* was on the same level with the stables and the cellars. Then an iron door was opened, and some pains had evidently been taken to render the door air-tight. There was no offensive odour; instead of a pool of liquid soil we stepped upon a clean cement surface. A large opening near the top of the vault faced us; it was the ventilator. Next to it there was a large pipe descending into an iron cylinder of portable dimensions, raised a few feet from the floor. From the cylinder another pipe descended into the earth, and it was connected with the cylinder by a gutta-percha tube. This machine, of a frightfully primitive nature, acts in the following manner: solid matter, descending by the common pipe which receives the discharge of each floor, remains in the cylinder, at the bottom of which is a narrow, well-protected grating; through that all the liquid oozes, by means of the gutta-percha tube, into the drains, whereby it is conveyed by the street sewers to the Seine at a distance from Paris. Every two days this chamber is visited by the servants of the company,—undertakers

* See the *Builder*, vol. xxxiv., p. 1097.

* See the *Builder*, vol. xxxiv., p. 969.

or rather contractors for this system of drainage. The cylinder, disconnected from the pipe descending from above and the gutta-percha tube before mentioned, is carried off on the shoulders of two men; another empty cylinder is put in its place. Such a *fosse* is simply a clean empty cellar, containing in one corner the rough machine which we have described. The different houses above, by no means large or extravagantly decorated, are likely to let, the first floor at 700*l.* a year; the second, perhaps, at 600*l.* a year. Houses of such a rent include, of course, all cellars, servants' rooms in the roof, stables and coach-houses, as well as much furniture, which is regarded in the light of fixtures. Nevertheless, few Londoners appreciate the advantages of living in the heart of a great and an agreeable capital sufficiently to pay an equal sum for the mere horizontal slice of a large and an elegantly-finished block of houses.

We will not weary our readers with further description of buildings in course of erection: some of them are let before they are completed, and the new houses in the renovated neighbourhoods are eagerly sought. Yet only a few architects in Paris are busy. M. Duc, whom we saw engrossed with his drawings, and alone in his private office above the Cour de Cassation, contents himself with the completion of one building, the labour of many years, and a master-piece. The portico of the Palais de Justice, the really beautiful portion of the exterior, is now finished. Its broad flight of steps complete one side of an open space only lately cleared, and soon to extend to the Pont Neuf,—the bridge connecting the island upon which the Palais stands with the banks of the Seine on either side. The works executed since the war, both at the Palais and the Cour de Cassation, forming as they do one building, are varied and important. The portions burnt during the Commune have been restored or rebuilt. These burnt portions were the Grand Salle des Pas Perdus, fronting the Boulevard St. Michel, and constructed originally by Jacques de Brosse; the two Salles d'Assises, erected during the latter years of the Empire, by M. Duc himself; nearly the whole interior of the main building facing the Boulevard St. Michel, and extending almost to the Sainte Chapelle; and a part of the Chambre de Police Correctionnelle. Since the fire the Galerie de St. Louis, the Galerie des Avocats, the two towers and the roof facing the quay have been rebuilt. A statue of St. Louis, the work of M. Guillaume, Director of the École des Beaux Arts, and a member of the Institute of France, is in course of completion within the walls. Every, even the meanest, object within and without this building has been designed expressly for the position in which it is placed. A certain sum of money is annually devoted to the purpose; a special staff directs the works. The technical Offices, both of the State and of the City, are concerned therein. The Cour de Cassation belongs to the State, and M. Duc is the sole architect; the Palais de Justice belongs to the City, and M. Duc and M. Daumet are the joint architects. In Paris at the present moment the Ministry of Public Works is occupied principally with engineers' specialities, such as roads and bridges; the Ministry of the Fine Arts has been abolished, and its business confided to the Director of Civil Buildings.

Across the river the Hôtel de Ville shows hardly anything except a huge scaffolding of timber such as is rarely seen out of France. Along the quays fewer people crowd and idle than were often seen ten years ago. Tramways traverse streets and boulevards heretofore free of such so-called encumbrances. The itinerant vendor of dangerous acquisitions, like opera-glasses and real English cutlery, has gone with many better men. There are doubtless a host of poor, overworked, people in Paris, many who often want bread, or wine, or clothing; but no one begs! Search the town through, and you shall find no pauperism so despicably mean and low as that which hourly shocks the sight of even old Londoners. Yet in the course of nearly a hundred years this ungovernable nation has endured disasters than which those of no other European people can be compared. Prosperity, however, is conspicuous in the Capital, independence is obtrusive in the provinces. So rich are the French individually, that France will offer a huge present to the sister and elder Republic of the West. A more than colossal statue of "Liberty," to be executed in copper, is even now commenced, and it is to be conveyed to New York. We saw the model of an arm in course of preparation beneath a lofty roof in the workshops of the well-known plumbers by whom most of the beaten lead and copper work of the Opera-house and other new buildings has been executed. Whence comes this prosperity? France torn by recent civil commotion, with the Capital only six years ago enveloped in flames of petroleum, with the interest of a heavy war indemnity to pay, with no settled mode of Government,—France bereft alike of a landed aristocracy, and an organised system of poor relief,—without peers and without paupers,—France looks on calmly and approvingly, while Paris continues to rebuild itself. In the meantime a great part of Northumberland-avenue is still in the market; not a house-front there is yet above the level of the soil; and the new streets of which so much has been lately said and which are to form the long-talked-of communications between Charing-cross and Oxford-street, between the Strand and Regent-circus, have emerged from the scuffle of Parliamentary committees a mere shadow of the improvement they might have been,—thanks to the blind and ill-considered demands of the War Office on one side and of the Marquis of Salisbury on the other.

MARLBOROUGH HOUSE, AND THE SAFETY OF THE DISTRICT IN WHICH IT STANDS.

Prediction, by way of preternatural indication of coming events, is a subject unfit for discussion in our columns. But there is a kind of prediction which comes within the range of science. The utterance of such prediction is a part of the duty of scientific men. With regard to the former class of prophecy, the same venerable authority which anticipated the occurrence of messages sanctioned by the seal of prediction, also intimated that the authenticity of that seal was, in such cases, to be tested by the event of fulfilment. For the accomplishment of prophecies of a preternatural order, therefore, patient expectation may be the course of wisdom. It is otherwise with regard to the prophecies of science. These are of two kinds. They are either definite and absolute,—which is the case when they refer to something entirely beyond the reach of human control or influence, as in the case of an eclipse,—or conditional, when they refer to the possible occurrence of events which may be affected by human effort. Our almanacks, published before the beginning of the present year, predicted the occurrence of a total eclipse of the moon on August 23, which was to begin at 9h. 14m. p.m. So safe and precise was the prediction, that no one has cared to call public attention to the fact of its exact fulfilment. But when the *Builder* asks (as it did on the 18th of August last, to say nothing of countless times before),—"How many of our palaces, mansions, public offices, are still maintained as the seed-beds of preventible disease?" and when it adds, "We very much fear that we shall have more and more royal, noble, and even medical victims to typhoid infection, unless the profession somewhat change their hand in this matter," we have a good case of the second order of prediction. We have anticipations of what was likely to be discovered, founded, as is now apparent, on sure data; and we have anticipations of what was likely to occur, unless prevented by certain measures, which we also indicated, which have also been verified, in the case of Miss Knollys, and in the more fatal attacks on other members of the royal household.

No language can be much stronger than that in which the *Lancet* describes the result of such an investigation of the basement and subsoil of Marlborough House as was advised in our columns, as plainly as could well be done. The sanitary conditions under which the Prince of Wales and his family have been living "would be imperfectly paralleled had Marlborough House been built over a Northern midden-stead." Very imperfectly, in truth, as appears from the sequence of the article. "The condition of the basement of Marlborough House is the condition, probably," adds our contemporary, "of most ancient mansions in London." The evil in this case is said to be traceable back to the condition of the ancient Friary, which occupied the site of Marlborough House when it was granted by Queen Anne to the Duke of Marlborough in 1709. But let no one take comfort from the reflection that no monks were their own predecessors. Hostile as the monastic orders usually are to the application of water in any abundance, their abodes were by no means more neglected than those of the nobility, gentry, and commonalty of their day. All along that part of London which fringes St. James's Park, and which runs from the Thames, by the site of the Abbey, past Buckingham Palace, and on through much of the costly area of Belgravia, the natural level of the ground is so little above that of the high tide, that difficulties as to draining are as old as any idea of artificial draining itself can be. We can speak from personal knowledge of the intolerable state of the vicinity, for example, of Duke-street, years ago. How far the works of the metropolitan drainage have improved this state of affairs, is a question which each owner or resident is called upon, under the most serious risk, to ascertain for himself. What is certain is that the greater part of this district is composed of the alluvial deposits brought down in the course of time by the river. These deposits have not been raised, by the natural process of formation, above the range of high-water, or, at all events, of flood, level. They are for the most part more or less permeable. Where they consist of sand and gravel they are usually thoroughly permeable. They are thus likely to be saturated with the remains of the sewage of centuries. With the erection of houses and the excavation of foundations, usually coincides the rising of streets,—that is to say, of the apparent, not of the actual, level of the district. The rise thus occasioned may be taken, from measurements made in London, as well as in many ancient cities, at something like 1 ft. per century. The effect of this rise, in the case to which we are referring, is to disguise the actual level of the ground on which houses stand. We have to deal with an ancient area of made and pervious soil, in which, from the time when building first commenced upon it, cesspools were formed and covered in, drains were made, neglected, half or altogether closed, cut off, and dealt with in every way that ignorance, caprice, or penuriousness could suggest. If such a blessing in disguise as the Great Fire of 1666 had swept over this courtly district, there might have been some general order taken for the drainage of the subsoil. As it is, there is but too much reason to fear the condition is generally bad. The main fact of the level on which the houses were built has complicated the difficulty. The recent report only confirms suspicions, and more than suspicions, that we have been led to entertain, as to more than one locality within the area in question. In one instance, where an offensive smell was perceived in a house belonging to a man high in official life, representation was made to the Metropolitan Board of Works. They made some examination of *their own drains* in the vicinity, and replied that they were in perfect order. It is matter for very serious inquiry how far the actual system of metropolitan drainage is calculated to supply the public necessities of the important part of London which lies under the conditions we have described.

The inquiry, in fact, is twofold. It must be made within as well as without. No public body can undertake the first duty,—at least, none as at present constituted. In the case of Marlborough House, we are told of many "ingenious devices and rectifications of obvious evils," which appear not to have gone to the root of the matter. That the War Office is in a like plight we suppose there can be no question. It is evident that the same kind of thorough investigation which is now in course at Marlborough House must be extended to the district, if it is to be converted from a seed-bed of danger. Each owner or resident has a part of this onus thrown on himself. A proper investigation, by a competent person, should be a matter of conscience in each case. It is in defiance of warning, of risk of life, and of common sense, that such an investigation will be omitted by any householders to whom these warnings apply.

As to the public part of the matter, moreover, we shall be glad to have some re-assurance. The basement of Marlborough House stands at a level, the *Lancet* says, "which makes its outlet into the existing system of metropolitan sewers a work of considerable difficulty." We should like to have this sentence put into plain English. We should like to know the level of the sewers in Pall-mall, Spring-gardens, Duke-street, and similarly-situated parts of the West End, as referred to Trinity high-water mark, as well as their depth below the level of the streets. For it must be remembered that it is perfectly possible that the works on which the residents, in these expensive localities, have been taught to rely as their sanitary safeguard, may have been so constructed as to accommodate the modern closet drainage fairly, and yet to leave untouched the ancient sewage percolation and neglected

drainage of preceding generations. We by no means state that such is the case. But it very much looks as if it were. The public have a right to the fullest assurance on the subject We trust that such assurance will be forthcoming from the officials of the Board of Works What the public have a right to know is, not a general assurance that all is right, and that everything has been properly attended to, but such detailed information as may allow every householder, or at least the professional man whom he consults, to know distinctly and definitely how far the area on which his house stands is, or is not, efficiently drained by the existing system of works. For this end it is necessary that a full and minute plan, showing accurate levels, should be readily and gratuitously accessible to each householder. The pains that some foreign authorities,—as, for example, the Italian Government,—are now taking in order to furnish individual proprietors with hypsometrical data, might be very well imitated in this country. We have urged, and we do urge, every man who is not fully advised as to the salubrity of his house, to take the proper steps without delay. But it is obvious that the full and ready concurrence of the drainage authorities is necessary to that end. The owner, or his surveyor, may ascertain the facts as to his own area of land. He may, if he is in doubt, even sink a trial boring, or take any proper measures to ascertain what is really under his feet. But this is useless unless he is at the same time put in possession of the further information which we point out as necessary. Suppose, for example, it were ascertained in any house that at 2 ft., 3 ft., or 4 ft. below the floor of the kitchen the soil was saturated with damp. Suppose there were 8 ft. or 9 ft. of wet, semi-pervious soil, and then blue clay. The question would arise how to deal with this state of things. A permanent premium, if not to typhoid fever, certainly to phthisis, and those disorders of the respiratory system which are so generally aggravated by residence in London, especially in autumn and spring, is offered by leaving matters alone. But the question both of efficiency and of cost will be insoluble without the exact knowledge of the relation between the spot in question and the system of urban drainage. Nor is it a question of one or two levels alone. The actual level of the main sewer in the street by such a house as we have intimated may be given. But the question of communication with that sewer is another matter. As a rule, a main sewer should not be looked to as affording a local drainage of subsoil to its own level. If house-drains and percolation from the soil are allowed ready entrance into a main sewer, sewage poison can make its way back into the soil and house. If there is no such ready communication, it is obvious that the mere knowledge of the level at which the sewer runs will not be sufficient for the guidance of the private owner. He must know distinctly what are the most available means for the drainage of the area covered by his own house,—say at a depth of 3 ft. below the footings of his walls, or the floor of his basement. If he does not know this, he is at sea.

It must not be forgotten that a possibility exists that the main drainage works of this part of London are not so constructed as to act as subsoil drains as well as carriers of house drainage. We do not say that it is so,—in fact, it looks very much, from the report we have cited, as if no one was at the moment in a position to reply to the question. But it may turn out that subsidiary works are required for the thorough sanitation of this low-lying and important district. This much, however, is indisputable. It concerns us all very deeply that the truth of the matter should be publicly known. We cannot believe that the Board of Works will hesitate to place full details of the levels at which they receive either sewage or soil-drainage at any portion of their system. If it proves that something has yet to be added to the existing method of discharge, it is not by keeping that fact in the dark that any credit or advantage will be gained. It is possible that the information which we point out as necessary to be at the disposal of each separate proprietor may be easily forthcoming. It is possible that some study and investigation may be necessary in order to draw up the requisite plan. At all events the public must have the facts before them. Without these facts proprietors may be put to great expense, and yet secure no satisfactory results. When the *Lancet* speaks of the great difficulty of now draining Marlborough House, it seems to intimate something like the block which we suggest.

Our readers may remember that some time ago we referred to the drainage of a town in which the phthisis rate fell to almost *nil* while the sewerage works were in progress, and rose again nearly to its normal rate of intensity when these works were completed. The causes were clear—phthisis depends on wet subsoil. Drain the subsoil and phthisis disappears. In the case in question the excavation for the main sewers effectually bled and drained the subsoil. The town grew healthy—as to this source of disease. When the main culverts were finished, and the excavation filled up, the bleeding of the subsoil ceased. The water rose with rain till it reached its former natural height. The death-rate rose with the water.

We do not very well see how to avoid the conclusion that a somewhat similar state of affairs must exist in the part of London to which we call attention. In fact, where the soil is permeable, or semi-permeable, elements of mischief must exist unless there be a distinct provision for subsoil drainage, independent of the main run of the sewers, and falling into the sewerage system at proper points. And we confess to considerable doubt whether this necessary drainage can be thoroughly effected in this case without special pumping. We desire to make the matter perfectly clear. We do not offer evidence on the subject, but we say that there is ample evidence,—Marlborough House, to wit, —to justify us in putting to the Metropolitan Board of Works the question, What is the provision made for any old sewage or subsoil drainage in Westminster? No one can rejoice more than we shall do if the reply is in all respects satisfactory. No one, that is to say, unless it be the architect or engineer in charge of the sanitation of Marlborough House, when he is assured that the difficulties as to drainage anticipated there are imaginary.

But in the absence of any such assurance the question will become a very serious one for all locally interested. Nor for them alone. It is not the relatives of the public officers,—generally picked men,—the very men whose services are of the most value to the country,—alone, who are concerned with the sanitation of the War Office. It is not even the highest family in the country that is alone concerned in the sanitation of Marlborough House. The nation has a deep interest in the matter, and will have a voice, and a loud one too, in its settlement. The subject is now fairly brought before the public. From knowledge of the great danger up to the present time incurred by residence in Marlborough House, the *Lancet* speaks of the serious difficulties of effectually draining the area on which the palace of the heir to the throne stands. We give professional reasons for fearing that a similar difficulty may spread over an important area of the capital, and we call on the authorities who have been so liberally provided with public funds for the purpose of draining this, as well as other parts of London, to set the public mind at rest on this subject. If the drainage is properly planned, the fear as to difficulties should be shown to be vain. If this essential part of the matter has not yet been fully looked at in the face, no time should be lost in doing so. It is not a matter of blame or recrimination,—it is a matter of life or death, or at least it is a matter of giving accessible and ample information to those on whose exertions the health or sickness of the inhabitants of all that part of London which presents such conditions as those now known to apply to the site of Marlborough House, must in great measure depend for their efficiency.

Bromley Art and Science Classes.—The annual meeting of these classes was held at the Town Hall, Bromley, on the 15th ult., when prizes to the students, who had attended last year's classes, and had successfully passed the examination, were distributed by Miss Norman. Mr. Charles L. Norman presided, being supported on the platform by Dr. Farr, Rev. A. G. Hellicar, Mr. J. Scrutton, Mr. T. Davis, and other gentlemen interested in the movement. The chairman having addressed the meeting, Dr. Farr moved the adoption of the report. Mr. J. B. Brown having seconded the motion, it was put and unanimously carried. Miss Norman then presented the prizes and certificates to those students who had successfully passed the examinations, and whose names were published in the *Bromley Record*, on September 1st. Mr. Davis having announced the arrangements for the ensuing session, Mr. W. P. Griffith followed with a speech on the benefits conferred by mental culture.

THE VALUE OF WORKS OF ART IN MEDIÆVAL ITALY.

The difficulty which many persons feel when reading history of bringing clearly and vividly before their mind the actual political life and reality of the past is equally strong when the portion of history under study relates to art. Of the hundreds who annually visit our National Gallery, the Louvre, or any of the other great galleries of Europe, but few picture to themselves the place which those works upon which they gaze held in the estimation of their ancestors. We understand in this age of riches the sort of desire which exists in rich patrons of art to be the possessor of some masterpiece of Turner or Correggio, but we can scarcely imagine the same strong wish among the half-civilised soldiers of the Middle Ages. Again, the painters of the past are too much regarded as men who worked actuated by religious zeal or for the sake of their art alone, and we forget—even if we ever took the trouble to ascertain—the motives which caused so many fine collections of works of art to be gathered together by those who were neither the heads of religious houses nor, broadly speaking, highly-civilised men. Of course, the larger part of Mediæval art may possibly be considered as either devotional or historical, especially, so to speak, personally historical; but there was still a large amount of work done for persons who desired to have beautiful pictures as such, and to possess lifelike portraits, it is true, but at the same time fine specimens of the painter's art. But this was far more the case in Italy than in any other country of Europe.

Unless, however, we can to some extent realise the high value thus set upon art in Mediæval Italy, not only in a pecuniary sense, but for its own sake, we certainly fail to grasp one of the most interesting facts in the history of art and of Italy. The life of Titian especially affords many examples of this value, and any one who follows the career of the great Venetian painter with any care, will find in it striking instances of this characteristic of Mediæval Italy. From the subject of the Magdalen alone Titian boasted that he had in the course of his life made upwards of 2,000 scudi. In 1531 Federico Gonzaga, Marquess of Mantua, wrote to Titian, requesting him to paint him a Magdalen, "as beautiful but as tearful as possible," which was intended as a present to Davalos del Vasto, who was in high favour at that time with the Emperor Charles V. The actual price paid for this picture is not known, but is cited here as a striking instance of the manner in which good works of art were sought after in those days. For this was not a picture to be placed over some high altar in some great church, but was a work of art to be presented to the favourite of a great monarch and a great soldier, simply and solely for the sake of its intrinsic merits, and of the artistic value which would be set upon it by its possessor, and we cannot doubt that its giver hoped for some substantial political favour in return. Nor is this the only instance of the somewhat base uses to which high art was put in those days, when Italy presented so singular a picture of love of art, combined with nearly all the moral qualities to which true art is antagonistic. Thus Benvenuto Cellini, in his egotistical and amusing autobiography, yet most life-like picture of an artist's life in the Middle Ages, tells us with complacent self-satisfaction how, when one Federigo Ginori died, for whom he had modelled a medallion of Atalanta, this same work came into the possession of a certain Luigi Alamanni, who shortly after presented it to Francis I., king of France (Vita di Benvenuto Cellini, libro i., xliv.). The sovereign was so pleased with it that he desired to become acquainted with the artist himself. And this is a striking illustration of the value of works of art in that period of European history. For Francis I. was not by any means a lover of art for art's sake. He was a vain-glorious young man, who desired to do everything in what in these days would be termed "the best style": yet, not only was a medallion modelled from an antique subject considered a gift worthy of a proud and powerful king, but that monarch (allowing for Cellini's ideas of his own self-importance) was clearly pleased with the Italian present. The influence undoubtedly came from Italy, and this may be considered rather as an instance of the value of works of art in Italy than in France, for Italy, so to speak, set the fashion.

To take another example: in 1532, Charles V. again entered Italy, accompanied among others

by his favourite secretary Covos, commander of Castile, to whom the management of Italian affairs was intrusted. This person had a taste for art, and consequently, through art it was found easist to reach his ear and obtain his influence. Farrante Gonzaga, brother of the Duke of Milan, endeavoured to ingratiate himself with this powerful official by the promise of a picture by Sebastian del Piombo. On the other hand, Alfonso of Ferrara set Titian to work to produce a picture which should at once win Covos over to his side. In this way Titian and the great masters of the Italian schools created works which have charmed posterity, but which were produced at the order of some luxurious Italian prince, who, unable often to obtain his ends by open measures of diplomacy, would seek to make his object attainable by nothing more or less than artistic bribery. It is a singular instance of the rottenness of social life when those arts, which should be employed for the noblest ends, become the instruments of illicit political negotiation.

When Maximilian Stampa, the agent of Sforza, Duke of Milan, distributed his most substantial favours to Aretino, the friend of Titian, and a notable intriguer and literary man, he received a gem cut by Luigi Anichini and a "Boy Baptist," by Titian. To such base uses may the noblest works be put. But we may refer again to the actual pecuniary value set upon pictures in those days, though their social value is possibly the best test of their actual worth in Mediæval Italy. When Ercole II. succeeded his father as Duke of Ferrara, in 1535, he at once sent Titian fifty ducats* as an earnest that he desired him to continue a certain portrait of his father, Alfonso, whilst for the actual picture itself when completed the painter received 200 scudi. The value set on art is further exemplified by the way in which what was known as a broker's patent in the Fondaco de' Tedeschi was granted to one or more great painters in Venice. It was a valuable right, producing some hundred ducats a year, as well as exempting the holder from certain taxes, but requiring in return a portrait at rare intervals of some great Venetian citizen.

But the importance of all these facts in regard to the point upon which these remarks are made is that they show that the Government of Venice had in fact a State painter, thus clearly pointing to the importance which was attached to the art of painting, and consequently to its results. Not indeed that this general retaining fee was the only way in which Venice showed her opinion of the work of art, for the Government was continually giving commissions to Titian and those who preceded and succeeded him, for various paintings for the Hall of Great Council and the public buildings of the Queen of the Adriatic.

Again, the estimation in which a painter's services are held, which serves as a sign of the value attached to his productions, is further exemplified by the desire shown in 1547 by those two heads of the ecclesiastical and the civil world, Pope Paul III. and the Emperor of Germany, to obtain the services of Titian. The former promised Titian the seal of the Papal Bulls, lately held by Sebastian Luciani, who is generally known from his office as Del Piombo, a post which gave its holder an official position at Rome. In addition he was promised a lucrative benefice. On the other hand, the Kaiser sent the painter large sums of gold, a rich outfit, and a promise that he would defray his expenses to the German Court in the ancient city of Augsburg. The general reputation and the riches to be gained from being attached to the German Court proved the most attractive to the renowned painter, and the Emperor proved more persuasive than the Pope. But the moral, so to speak, of all this curious rivalry for the services of a great painter, as keen in its way as that for territory or power, is certainly to show plainly the high estimation in which the productions of the painter whose services were desired by the chief personages of the day were held.

But what we chiefly wish to make clear to our readers by these examples is the actual sterling value of a fine work of art in Mediæval Italy. So far from the present being the only time when a picture has a high general value, those very masterpieces of great painters, some of which still exist, whilst others are now destroyed by time or war, far from having recently become, so to speak, marketable, did, in their first days, possess not only a worth which would obtain for their possessor large sums of money, but had actually a value which they now lack. They were things so precious that they could change a statesman from a foe to a friend, and obtain from the monarch or the minister substantial political favours.

* The gold ducat of Venice was worth in modern times from 5s. to 6s., but it was, of course, far more valuable in the Middle Ages.

ARCHITECTURAL MODELLING IN ITS RELATION TO THE ARCHITECT, HIS CLIENT, AND THE PUBLIC.

While England may vie with Continental countries in the beauty, grace, and majesty of design of the edifices which adorn her land, she possesses no gallery of Architectural Models in which may be collected the gems of British architecture, affording an interesting study to the student, general public, and foreign visitor.

When it is fully considered that there is as much real hard thought expended in the conception of a design, as there is in the composition of a picture, or piece of music, or in the lines and construction of a ship, and that the artist, the musician, and the naval architect have each afforded them, by the State, galleries in which they may exhibit their talents, it must be considered unfair that the British architect is left out of the field of exhibition. It is true that he may exhibit his skill at the various art exhibitions which occur from time to time throughout the country, but still the fact remains, the architect possesses no permanent place in which his designs may always be before the public.

In order that the public may better understand drawings, they should be accompanied by a well-executed model placed in front of them, that the spectator may carry his eye from the drawings to the models, and thus realise a far better impression of them.

However artistically plans, elevations, sections, and perspective drawings may be made, these, even at the best, give but an incomplete idea of what a building would be like upon erection. You can walk round a model, examine the contour, the details, the relative proportion that the various parts of a building bear to each other and the whole, the projections and recesses, the system of ventilation, method of carrying off the rain water, roof-plan, &c., which you cannot do with a drawing.

Further, when it is considered that there is no profession which is so crippled by time, space, money, fluctuations in the price of labour and material as that of the architect, and that the architect has often to contend in his design with the crude and indifferent taste of his client, and so conceive it that he will not interfere with surrounding buildings and neighbouring interests, one would naturally think that the State would, in recognition of these difficulties, and in compliment to the versatile ability and genius of the profession, afford it a place in which, under proper auspices, might be collected carefully-executed models illustrative of everything that is interesting in the study of architecture. Such an exhibition would, apart from its use as a study, be of incalculable benefit to the nation, allowing the architect's client an abundance of examples from which to choose illustrative of the style in which he would like a building erected.

Three reasons may be assigned why architectural modelling is not brought into greater requisition.

First, models are so often so indifferently constructed that they become more like caricatures of an architectural design than any faithful embodiment of it.

Secondly, those who have given to it a lifelong study have been so inadequtely rewarded that they have thrown it up in disgust.

Thirdly, the art of photography, by which any number of perspectives can be obtained, has done much to do away with modelling; but even this art fails to give to an observer that readiness and fulness with which he can grasp the design of a building in all its parts when shown by a model.

There is no reason why architectural modelling should not assume its place among the art-industries of the country. Few pursuits afford a finer scope for the exercise of the inventive faculties, or where delicacy, and mathematical and geometrical accuracy of works, are required. One may fairly attribute a great deal of the beauty of Sir Christopher Wren's designs to his being assisted by models of his own construction.

A model can not be made too faithful an embodiment of an architectural design; the more it is so, the more it becomes a work of art, and thus an object of national interest, and when it becomes so it advances the interest of the architect and the value of the building of which the model is the representative. A model should be constructed not like a mere toy to be cast on one side, but as a work of art worth preserving in the future.

Apart from any artistic value architectural modelling is of the greatest practical value to the architect, his client, and the public. It is to the architect what the clay model is to the sculptor. It not only assists him in the conception, but also in the correction of his design, it is also a test of the accuracy of his draughtsman, and is of material assistance to the builder. To the client it is of essential value. Few clients can understand plans and sections, and perspective drawings are often made so deceptive as to mislead the client so that the client becomes dissatisfied. When the building is erected, he is under the painful necessity of making extensive alterations, involving an amount of expense and vexation which a carefully executed model would have avoided. You can pull down a model much cheaper than you can pull down a building, and a well-executed model instead of being an additional cost, proves in the end a considerable saving. To the public, architectural modelling would be of special interest. A gallery of carefully constructed models would enable persons to compare the relative merits of various designs, would create a national taste for architecture, promote the interest of the profession and those trades with which it is brought into immediate connexion. Persons, corporations, public companies, founders of charitable institutions, &c., desirous of having edifices erected would get a more tangible idea of the design they would like to adopt by an inspection of an architectural model gallery than by any series of drawings however elaborately and carefully executed.

There is hardly a Continental country which does not possess a national gallery of architectural models. That England should form an exception does not reflect to her credit in her encouragement of the architectural profession.

The additional cost of a building by having a model previously constructed is trifling, and that in ninety-nine cases out of a hundred it proves a gain in the end, cannot but form a sufficient inducement to have one made.

Having pointed out the value of architectural modelling to the architect, his client, and the public, it would be well to compare the relative merits of the various methods pursued in their construction, and see which is best calculated to be the most faithful representation in miniature of any architectural structure.

Models may be divided according to the material of which they are constructed into block, sketch, cork, plaster, cardboard, and a new kind lately invented whereby the materials of which a building is composed are illustrated by the inlaying of woods of appropriate colours,—that is, adapting the colour of the wood to the various colours of the materials of which the building is constructed, and inlaying one within another. These models may well be called "inlaid."

Block Models are blocks of wood with elevation marked on paper and placed on the wood. They are used for roughly representing various buildings which will be interfered with in carrying out any city improvements.

Sketch Models are constructed on an exceedingly small scale. The details are drawn and not shown in relief upon the various elevations. These models are used when an extensive range of buildings is to be erected, as for the new Government Offices.

Cork Models, from the porous nature of the material and its easiness of compression, are unsuitable for accurately representing detail, but exceedingly useful in representing old and rustic buildings.

Plaster Models are very beautiful in appearance, and admit of much fineness of detail, but the plaster being pure white does not faithfully represent a building which is constructed of materials of various colours. Plaster models are admirably adapted for representing temples, monuments, coliseums, tombs, &c. The great objection to them is their monotony of colour, their liability to chip or break, and the necessity, usually, of having moulds previously made.

Cardboard Models are superior to those already described, inasmuch as they can by colouring be made to imitate the different materials employed in the building, much fineness of detail can be obtained, and an excellent result secured. The

cardboard models of Dighton and of Salter were marvels of geometrical accuracy and beauty. It was they who first brought cardboard modelling to very high perfection; even in their models a resort to moulds, and having some parts cut in wood, was absolutely necessary.

In approaching the last system of architectural modelling, viz., *Inlaid*, by which the principal materials of which a building is composed are illustrated by the inlaying of woods of appropriate colours, several distinctive features and advantages will become apparent. Any one unacquainted with woods would be surprised at the infinite beauty of grain and variety of colour which they possess. Wood being a material easily bent, carved, or moulded, you are enabled in modelling to dispense with moulds; the variety of colour of the woods used relieves you of the necessity of all artificial colouring; and the inlaying of the woods one within another gives to the model a more realistic appearance than can be effected by the use of cork, cardboard, or plaster, thereby avoiding the roughness of the first, the toyishness of effect so common to the second, and the monotony of colour so characteristic of the third. The inlaid models can be easily cleaned with ink-eraser, scraped or finely sandpapered; they are less liable to warp, chip, or break, and they have the advantage of being easily added to or altered. The model of Preston Hall, Aylesford, the seat of Mr. H. A. Brassey, M.P., is carried out on this principle. The model is now placed in the Architectural Department of the South Kensington Museum. It is constructed principally of two kinds of wood, one representing the Kentish rag, the other the Caen stone. The ornamental slates, ironwork, sashes, doors, &c., have their due representation in appropriate coloured woods.

The statues and statuary groups are carved in ivory, a material far better adapted than wood for very fine carving. In this model the fountain, lawn, terraces, walks, shrubberies, and flower-beds, are all artistically represented.

Inlaid models can also be more quickly executed, as there is no occasion for artificial colouring, making moulds, or castings, and you are in a position to model as fast as the architect can prepare his drawings.

In advocating the establishment by the State of an architectural model gallery, it is with the sincere conviction that architecture would be benefited, the interests of the architect would be advanced,—also those trades with which his profession is brought into connexion,—a taste for architecture would spring up among the people, an encouragement would be given to one of the art-industries of the land, and the Government would, by so doing, be paying a graceful tribute to the architectural profession, which, in its pursuit, stands second to none in the amount of study, skill, and energy required.

ON THE ANTIQUITIES OF KILLARNEY.

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First, and most deserving of notice, is the very remarkable group at Aghadoe, comprising a church, a cloictech or round tower, and a military tower or castle. This group, two miles and a quarter from Killarney, stands upon a rocky ridge, whence, from a height of 400 ft., is a view of the whole expanse of Lough Lean, including Ross, Inisfallen, Mahony's Point, and the woods of Dunloe Castle, while in the background, the frame of this lovely picture is formed by the mountains of Stoompa, Mangerton, Looscaunagh, and the Reeks, ranging from 1,200 ft. to 3,000 ft. These lie to the south. To the north is a view not less Irish, but of a very different character. A bleak, barren, and dreary tract, poor land and poorly cultivated, and in every way a contrast to the natural paradise which includes the Lakes of Killarney.

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The eastern portion measures 24 ft. by 45 ft. It appears to have had a south door near its west end, and in its east wall are two sister lancet windows of 6 in. opening and 9 ft. high, each within a splayed recess, low-pointed, and with a plain chamfered arch rib, and connected with the springing of the ribs is a sort of quatrefoil ornament, and near it a human head carved. The roof was of timber. The north wall is standing, the south wall much broken down.

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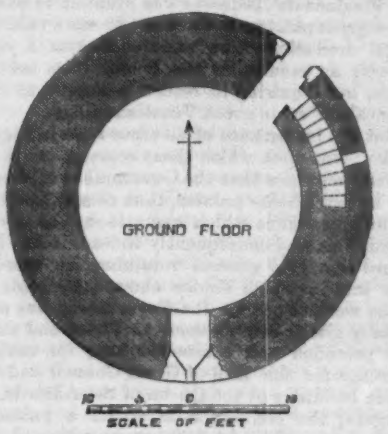
Within the church, laid against the west wall, is a small monumental stone, one of the angles of which bears an Ogham inscription. It appears to have been set upright. It is now broken, but the fracture is tolerably clean, and but one small fragment is missing, which may be concealed by the stone. This stone should be lifted, cemented together, and lodged in some secure place. As usual in ruined Irish churches, the sanctity attributed to the spot has more than filled the area, which is crowded with graves and gravestones with little regard to decency. In the churchyard is a half-buried fragment of stone bearing a very rude and early representation of the Crucifixion.

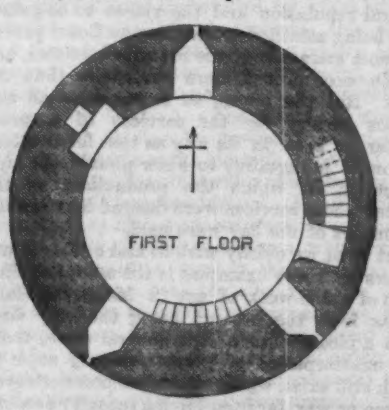
The *Cloictech*, or Round Tower, stands about 20 yards north-west of the church, upon the northern border of the churchyard, and is a little encroached upon by the modern wall of the highway, which is built against the core of the tower, from which the facing stones have, on that side, been removed. The tower is, and for at least a century has been, a mere stump, on one side 9 ft., and on the other 15 ft., high. At the base its full diameter is 16 ft. The sill of the door is, or was, 10 ft. from the ground, but is now either gone or concealed by the ivy. The wall at about that level is 4 ft. 6 in. thick, and the interior diameter 7 ft. The lower part is filled up, either with fallen rubbish or intentionally solid. The outline has a slight taper. The tower is cased inside and out with squared stones of different sizes, and here and there coursed, but more generally uncoursed, though well fitted together with moderately close joints. The stones are cut to the curve of the wall, both inside and out. The interior or core of the wall is composed of boulder stones, with a free use of mortar. This is probably one of the latest of the Irish towers, and is so classed by Miss Stokes with Timahoe, Annadown, Temple-Finnan, Kells, Ardmore, and Disert O'Dea. There seems no reason why it should not be of the same date with the west door of the church, or the middle of the twelfth century.

The Military Tower, or *Castle*. This rather remarkable tower, or what remains of it, stands on the slope of a hill, a few feet below, and about 150 yards south-south-east of the church. It is called by the people the Bishop's Pulpit; but the lessons inculcated from it were scarcely those of the gospel of peace. The tower is circular in



plan, and 36 ft. in diameter, with walls 7 ft. thick; and the chamber, therefore, 22 ft. across. Its present height is about 24 ft., and if it tapers or batters, it does so very slightly. It is at present composed of a basement and upper chamber, and there are traces of a second floor.

The doorway, now a mere breach, is at the ground level in the north-north-east side, or that nearest to the church. It opens by a passage 3 ft. 9 in. broad, with a flat roof, direct into the basement, but on the left hand, in the substance of the wall, is a small rude door, from which a staircase, winding with the wall, ascends to the first floor, into which it opens from a sort of



lobby by a rude small door. The staircase is 2 ft. 8 in. broad; its outer wall, 2 ft. 4 in., and its inner wall, 2 ft. thick. It is lighted by a small square-headed loop in the outer wall, about 8 ft. from the ground. The basement had a loop towards the south, in a splayed recess beneath a

low-pointed arch. The whole is much broken, and the loop converted into a gap. This chamber was 10 ft. to 12 ft. high, and the floor of the upper room covering it was of timber.

The first floor, also 22 ft. across, was entered from the staircase. It was lighted by three windows, or rather loops, to the south-east, south-west, and north. These, also, are broken away, but were probably square-headed, 6 in. wide and 2 ft. high. They were placed in splayed, low-pointed recesses, 4 ft. 6 in. broad at the inner end. Towards the north-west is a large fireplace of 6 ft. opening, and 3 ft. deep, with a vertical tunnel in the wall. Two large holes show that the hood was of timber. The floor was about 15 ft. high. Opposite the fireplace, between two of the window-recesses, is a steep narrow staircase, solid, and built against the wall. It led to the upper floor, of which the joist-holes of the floor and the cills of one or two windows remain.

This tower is constructed of boulder-stones, untouched by the mason's tool, very roughly coursed, with abundance of mortar, and every now and then parts of the work are brought up to the level by a course of tile stones. Spawls and fragments of stone are packed into the joints. The masonry is of the roughest, and the tower was evidently built in haste, with such stones as were at hand, and lay, as they still do, scattered over the surface. About the date of this tower there can be no doubt. It belongs to the same class with Tretower, Dolbadarn, and Brunllais, and some others in Wales, though the two latter have the entrance on the first floor. It is of the Early English period, and probably late in the twelfth century. Pembroke belongs to this type, as do Launceston and Conisgborough, though more ornate. It is said that there are towers similar to this at Waterford and Wexford.

There are no traces of any outbuildings, and probably the base-court was defended by a bank, and palisaded. The court-yard or bawn in which the tower now stands is much later. It is a square of about 37 yards in the side, defended by a bank of earth 5 ft. or 6 ft. high inside, and double that outside, where it slopes into a ditch. The tower is placed about 12 yards from the northern bank, and the southern portion is crossed by a second bank, inside the first. The outer bank is further strengthened by two round bastions of earth, 4 yards diameter, which project, the one from the north-east angle, and the other from the south-west, each thus raking two faces of the ditch. Each, if stockaded, would hold three or four musketeers. These bastions fix the date of the work. They are omitted, strangely enough, in the 6-inch Ordnance map. It is curious that with a cloictech close at hand to remind them, the Norman builders should have placed their entrance at the ground level, unless, indeed, they stabled their horses in the basement, which is possible. Also, it might have been expected that the builders would have used the material of the cloictech for their work. May it be supposed that they respected its connexion with the church?

It appears from the Irish annals that after the rising of MacCarthy, and the forfeiture of his territory, Cogan and Fitz-Stephen had a grant of it from Henry II., and after the capture of Cork, in 1177, went to Aghadoe to inspect their grant, and stayed there two days. It is said their visit was a pilgrimage, so that probably they went with some show of peaceful intentions. It is not improbable that the castle tower was the result of their visit. The base-court and earthwork may not improbably have been formed in 1584, when it appears from the Four Masters that Desmond was here encamped, and was attacked by a party of English cavalry, under Captain Siuitsee [Zouch], who stormed the camp by a sudden attack made on a Sunday morning, and slew many of the garrison. Either party holding the tower would be likely to strengthen it by such an outwork. Miss Stokes gives an admirable photograph, by Lord Dunraven, of the church, cloichtech, and castle.

Aghadoe is the only military building in the district attributable to the times of Strongbow. The other castles, such as Castle-Lough, Ross Castle, Pallis, Dunloe, and Killaha, are much later. Castle Lough stood on a point in Lough-Lean, and what remains of it, a mere mound, is in the grounds of the Lake View Hotel. Pallis Castle, a mile north of Beaufort Bridge, is also a mere small square mound, with fragments of foundations. Both were no doubt square towers of the sixteenth century.

Ross Castle, upon the neck of the peninsula of that name, is celebrated for its brief siege by Lord Broghill, Sir Hardress Waller, and the Parliamentary forces, in 1641. It was held by Lord Muskerry for his ward, Valentine Browne, ancestor of its present owner. It is composed of a large and lofty square keep, with a doorway at the ground-level, or nearly so, whence a well-stair ascends to the summit. Appended to the opposite face of the keep is a large rectangular building. Unfortunately this and most of the keep are walled up, so as to be quite inaccessible. The keep does not look Norman, but rather of the fifteenth century. In front of the keep, on the edge of the lake, is a sort of low outwork, composed of a short curtain between two bastion towers, commanding a central water-gate, and a part of a curtain, with round bastions, enclosed within which the tower stood. This looks earlier than the tower, but the whole needs a close examination.

There are two other castles, both late, which well deserve a visit, though more from the peculiarity of their positions than from their architectural merit. These are Dunloe and Killaha. Dunloe Castle stands upon the end of a rocky ridge, which rises between the confluence of the Loe with the Laune, the outlet of the Killarney lakes, and about a mile north of the celebrated ravine known as the Gap of Dunloe. The woods about the castle are fine, and the scenery very remarkable. The castle is a mere tower, square, or nearly so, and very lofty, with high gables set, like those of a Scottish peel, behind the rampart walk. It is inhabited. In the grounds is the celebrated Dunloe Cave, with Ogham inscriptions, discovered in 1838, and a killeen, one of those curious circular embanked burial-places said to be occupied by Chrisoms, or unbaptised infants, and those who died under the ban of the priest.

Killaha, called also O'Donoghue's Castle, is quite in another direction, about six miles east of Killarney, and a mile south of the railway. Its appearance from the Killarney road, crowning a rocky promontory, but rising out of woods, is very fine indeed. It is a small rectangular tower, about 50 ft. by 30 ft., divided within into two parts, of which one contains the small barred door of entrance, a vaulted porter's lodge, and part of a well stair. The basement of the other and rather larger part was the kitchen, lighted by small loops, and having a large fireplace.* The first floor has also a fireplace, and is looped. The second was the main floor. It has a large and handsome Palladian chimney-piece of marble, and the windows are tolerably large. At one angle is a small balcony. The third floor, also with a handsome chimney-piece, was the best bedroom; and the fourth floor is a sort of garret, in the gables, which are high-pitched and set back behind the rampart walk. The whole is of Tudor date, and does not appear to have had any outworks. Killaha and Dunloe are typical examples of a very common Irish castle of the sixteenth century, mostly built by English settlers, but sometimes by the native chiefs. The view from the castle to the south and east is wild beyond description. It looks down upon two small valleys, occupied by the Flesk and its tributary the Owneykeagh, beyond which rise a group of mountains from 1,500 ft. to 2,000 ft. high. The slopes and floor of the valleys are formed of beds of very rough gravel, and strewed thick with masses of granite, of all sizes and shapes, more or less water rolled, and evidently a part of a great ice drift. It scarcely requires a geologist to see that the agency of ice must have been in operation here for ages, detaching huge masses from the parent rock, and grinding crushing and depositing them over its track.

Besides Aghadoe, Inisfallen Chapel, and the abbey churches of that island and of Muckross, are several ancient and now ruined churches, though not of very high antiquity. These are Killalee, Killaha, and Muckross.

Killalee is on the road to Beaufort Bridge, four miles from Killarney, a ruin in a potato-field, draped with most luxuriant ivy. It is rectangular, about 30 ft. by 20 ft., with the side walls about 12 ft. high. The gables are standing, and the roof was of wood. It stands east and west, but has no west door. The entrance is in the south wall, towards its west end. It is now a mere breach, but the depressed pointed arch which covered it may still be seen. The east window was a long splayed loop. In the south wall is a square-headed loop, and near the east end a small piscina with a trefoiled ogee head, and a foliated basin. There is no opening in the north wall. The walls are built of large boulders, rudely coursed and laid in thick beds of mortar, the joints packed with spawls and fragments. The masonry looks old, but is only rude, for the pointed arches and ogee piscina show that the building is not older than the Early English period. Indeed, it looks of the Decorated.

The church at *Killaha* is also roofless and ivy-covered. It is rectangular, 60 ft. by 30 ft., and stands east and west. The doorway, now a breach, was in the south wall. There is a round-headed south loop, and east of it a plain cupboard. The east window is of two lights, long and narrow, with ogee heads, the only piece of ashlar in the building. In the north wall are two plain cupboards, one at each end. No windows. In the west wall no door, but a small loop high up. The roof was of timber, and is gone; the walls and gables are perfect. The exterior quoins are formed of large stones, apparently naturally squared. The whole structure seems of Late Decorated date.

The ruined church of *Muckross* stands in the cemetery, on the hill above the modern Protestant Church. It is rectangular, stands east and west, and measures 20 ft. by 11 ft. inside. Its roof is a rather acutely-pointed geometrical barrel vault. Its entrance is in the north wall, and the recess in which it stands is four-centred. The doorway is segmental. The east window is a loop of 9 in. opening, with a round head cut in a single stone. There are rude cupboards in the north and south walls, and at the east end a stone altar. Over the western end is a bell-gable, pierced by round-headed arches at right angles. Notwithstanding its small size, stone roof, and rude construction, it is difficult to regard this chapel as older than the Tudor period, though such may be the case with its walls.

About two miles east of Killarney, near Woodford Bridge, is a small and curious *stone circle*.

Seven boulder stones are set in a circle about 15 ft. in diameter, and stand about 4 ft. high out of the ground. The circle is placed in the centre of a larger area, 60 ft. in diameter, contained within a bank of earth about 5 ft. high, and 9 ft. broad at the base. On the south-east side is a gap, and in advance of this entrance, 40 ft., are two upright stones, set 8 ft. apart, one 9 ft. and the other 6 ft. high, forming propylæa before the entrance. The ground is level, and there is no ditch or tumulus or anything indicating a burial. If it was merely a moot, or place of assembly, or in which courts were held, the inner circle seems superfluous; or it may have been a Pagan temple. The stones do not appear to be marked by the tool, or to bear any inscriptions or ancient marks of man. The structure of one of the large stones is brought out in ribbings by the weather, and these at first look artificial. There are some modern initials. Probably those who are conversant with Irish antiquities, and have examined other similar circles, may be able to throw some light on their use and date.

The most numerous, and not the least interesting of the antiquities around Killarney are the *Raths*, of which the Inch Ordnance shows twenty-eight within a radius of five miles, and there are a few others not there set down. The use of these works is clear enough, and their construction by the native Irish is now generally admitted. but their date is still a subject of controversy among Irish archæologists, though they certainly were in use at a very remote period. The word "Rath" is Irish, and is held to mean "security," and in a secondary sense a "village," an "artificial mound or barrow," and Lhwyd instances "Rioghrath,' a "prince's seat." The name and the thing are common all over Ireland, and occur in at least seventeen places in West Pembrokeshire. Earthworks very similar are found in other parts of the Principality and occasionally of England, but they are usually on very high ground, and not, like the Irish rath, readily accessible.

A rath is a mixed domestic and military structure, constructed for habitation and defence. Varieties of it are termed Raheen, Lios or Lisheen, Dun, Doon or Dooneen, Cathair, Cahir, or Caher. A rath is a circular earthwork, from 50 ft. to 150 ft. diameter, though occasionally much less and much more. The area is usually a little raised about the surrounding land, partly by original intention, partly by long continued

* There is a curious aperture from the porter's lodge, opening just outside the door, as though to enable the porter to observe, and, if need were, to shoot the visitor. There is also a loop in the form of a cross potent, opening from the kitchen, and looking upon the entrance-passage.

cardboard models of Dighton and of Salter were marvels of geometrical accuracy and beauty. It was they who first brought cardboard modelling to very high perfection; even in their models a resort to moulds, and having some parts cut in wood, was absolutely necessary.

In approaching the last system of architectural modelling, viz., *Inlaid*, by which the principal materials of which a building is composed are illustrated by the inlaying of woods of appropriate colours, several distinctive features and advantages will become apparent. Any one unacquainted with woods would be surprised at the infinite beauty of grain and variety of colour which they possess. Wood being a material easily bent, carved, or moulded, you are enabled in modelling to dispense with moulds; the variety of colour of the woods used relieves you of the necessity of all artificial colouring; and the inlaying of the woods one within another gives to the model a more realistic appearance than can be effected by the use of cork, cardboard, or plaster, thereby avoiding the roughness of the first, the toyishness of effect so common to the second, and the monotony of colour so characteristic of the third. The inlaid models can be easily cleaned with ink-eraser, scraped or finely sandpapered; they are less liable to warp, chip, or break, and they have the advantage of being easily added to or altered. The model of Preston Hall, Aylesford, the seat of Mr. H. A. Brassey, M.P., is carried out on this principle. The model is now placed in the Architectural Department of the South Kensington Museum. It is constructed principally of two kinds of wood, one representing the Kentish rag, the other the Caen stone. The ornamental slates, ironwork, sashes, doors, &c., have their due representation in appropriate coloured woods.

The statues and statuary groups are carved in ivory, a material far better adapted than wood for very fine carving. In this model the fountain, lawn, terraces, walks, shrubberies, and flower-beds, are all artistically represented.

Inlaid models can also be more quickly executed, as there is no occasion for artificial colouring, making moulds, or castings, and you are in a position to model as fast as the architect can prepare his drawings.

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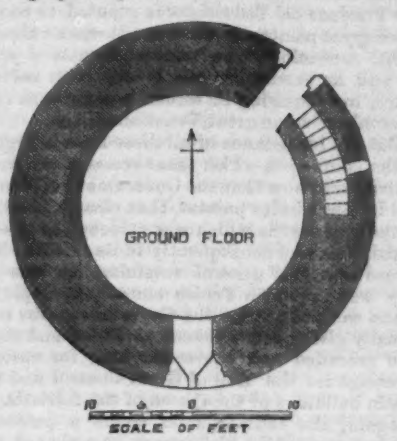
The west door is the gem of the building. The entrance doorway has plain flat jambs, about 6 ft. high, and inclined, the bottom being 2 ft. 9 in. broad, and the top at the springing level, 2 ft. 7 in. It has a round head. The doorway has a plain broad border, succeeded by a very peculiar crenellated moulding, each stone forming a perfect member of the pattern in itself. Beyond this is a nook, occupied by a shaft, one quarter engaged. These shafts have a sort of lotus-flower capital, and are carved in a peculiar variety of the chevron pattern. The bases are buried. Above is a plain abacus table, the under edge of which is a hollow chamfer, with a bead. The head is excessively rich, and though restored by some one whose intentions were beyond his knowledge, its original design is perfectly clear. There are four members. The innermost is a bold chevron moulding; the next a band of balls and pellets; the third a broad and much enriched variety of the chevron moulding; and the outermost, or drip, a bold projection studded with balls. Where the members have bold projections, the soffit of the arch is carved. This doorway is in sandstone.

It is difficult to form an exact opinion as to the date or dates of this church. The western seems the older part of the two; but had it been an original church, why should the eastern window have been placed out of the centre? And it would have been equally unusual to place a wall across a single church, dividing the nave from the chancel. The loops may, of course, be of any date; the door in the cross-wall is probably of the date of the east window. Part of the north wall, especially of the north-west corner, looks very old, older than the west door, which is probably the work of Aulliffe, about 1158. The eastern church may be the work of Hugh O'Donoghue, who died 1231. The west doorway may be taken as a very good example of Irish work, showing a strong Norman influence, but retaining a large measure of its own peculiarities.

Within the church, laid against the west wall, is a small monumental stone, one of the angles of which bears an Ogham inscription. It appears to have been set upright. It is now broken, but the fracture is tolerably clean, and but one small fragment is missing, which may be concealed by the stone. This stone should be lifted, cemented together, and lodged in some secure place. As usual in ruined Irish churches, the sanctity attributed to the spot has more than filled the area, which is crowded with graves and gravestones with little regard to decency. In the churchyard is a half-buried fragment of stone bearing a very rude and early representation of the Crucifixion.

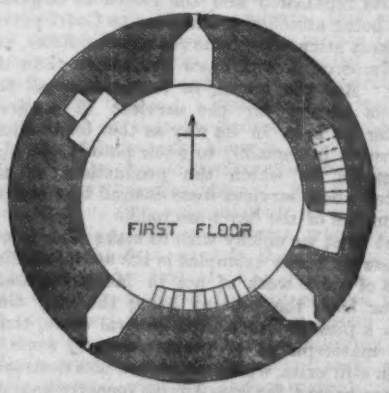
The *Cloictech*, or Round Tower, stands about 20 yards north-west of the church, upon the northern border of the churchyard, and is a little encroached upon by the modern wall of the highway, which is built against the core of the tower, from which the facing stones have, on that side, been removed. The tower is, and for at least a century has been, a mere stump, on one side 9 ft., and on the other 15 ft., high. At the base its full diameter is 16 ft. The sill of the door is, or was, 10 ft. from the ground, but is now either gone or concealed by the ivy. The wall at about that level is 4 ft. 6 in. thick, and the interior diameter 7 ft. The lower part is filled up, either with fallen rubbish or intentionally solid. The outline has a slight taper. The tower is cased inside and out with squared stones of different sizes, and here and there coursed, but more generally uncoursed, though well fitted together with moderately close joints. The stones are cut to the curve of the wall, both inside and out. The interior or core of the wall is composed of boulder stones, with a free use of mortar. This is probably one of the latest of the Irish towers, and is so classed by Miss Stokes with Timahoe, Annadown, Temple-Finnan, Kells, Ardmore, and Disert O'Dea. There seems no reason why it should not be of the same date with the west door of the church, or the middle of the twelfth century.

The Military Tower, or *Castle*. This rather remarkable tower, or what remains of it, stands on the slope of a hill, a few feet below, and about 150 yards south-south-east of the church. It is called by the people the Bishop's Pulpit; but the lessons inculcated from it were scarcely those of the gospel of peace. The tower is circular in



plan, and 36 ft. in diameter, with walls 7 ft. thick; and the chamber, therefore, 22 ft. across. Its present height is about 24 ft., and if it tapers or batters, it does so very slightly. It is at present composed of a basement and upper chamber, and there are traces of a second floor.

The doorway, now a mere breach, is at the ground level in the north-north-east side, or that nearest to the church. It opens by a passage 3 ft. 9 in. broad, with a flat roof, direct into the basement, but on the left hand, in the substance of the wall, is a small rude door, from which a staircase, winding with the wall, ascends to the first floor, into which it opens from a sort of



lobby by a rude small door. The staircase is 2 ft. 8 in. broad; its outer wall, 2 ft. 4 in., and its inner wall, 2 ft. thick. It is lighted by a small square-headed loop in the outer wall, about 8 ft. from the ground. The basement had a loop towards the south, in a splayed recess beneath a

low-pointed arch. The whole is much broken, and the loop converted into a gap. This chamber was 10 ft. to 12 ft. high, and the floor of the upper room covering it was of timber.

The first floor, also 22 ft. across, was entered from the staircase. It was lighted by three windows, or rather loops, to the south-east, south-west, and north. These, also, are broken away, but were probably square-headed, 6 in. wide and 2 ft. high. They were placed in splayed, low-pointed recesses, 4 ft. 6 in. broad at the inner end. Towards the north-west is a large fireplace of 6 ft. opening, and 3 ft. deep, with a vertical tunnel in the wall. Two large holes show that the hood was of timber. The floor was about 15 ft. high. Opposite the fireplace, between two of the window-recesses, is a steep narrow staircase, solid, and built against the wall. It led to the upper floor, of which the joist-holes of the floor and the cills of one or two windows remain.

This tower is constructed of boulder-stones, untouched by the mason's tool, very roughly coursed, with abundance of mortar, and every now and then parts of the work are brought up to the level by a course of tile stones. Spawls and fragments of stone are packed into the joints. The masonry is of the roughest, and the tower was evidently built in haste, with such stones as were at hand, and lay, as they still do, scattered over the surface. About the date of this tower there can be no doubt. It belongs to the same class with Tretower, Dolbadarn, and Brunllais, and some others in Wales, though the two latter have the entrance on the first floor. It is of the Early English period, and probably late in the twelfth century. Pembroke belongs to this type, as do Launceston and Conisborough, though more ornate. It is said that there are towers similar to this at Waterford and Wexford.

There are no traces of any outbuildings, and probably the base-court was defended by a bank, and palisaded. The court-yard or bawn in which the tower now stands is much later. It is a square of about 37 yards in the side, defended by a bank of earth 5 ft. or 6 ft. high inside, and double that outside, where it slopes into a ditch. The tower is placed about 12 yards from the northern bank, and the southern portion is crossed by a second bank, inside the first. The outer bank is further strengthened by two round bastions of earth, 4 yards diameter, which project, the one from the north-east angle, and the other from the south-west, each thus raking two faces of the ditch. Each, if stockaded, would hold three or four musketeers. These bastions fix the date of the work. They are omitted, strangely enough, in the 6-inch Ordnance map. It is curious that with a cloictech close at hand to remind them, the Norman builders should have placed their entrance at the ground level, unless, indeed, they stabled their horses in the basement, which is possible. Also, it might have been expected that the builders would have used the material of the cloictech for their work. May it be supposed that they respected its connexion with the church?

It appears from the Irish annals that after the rising of MacCarthy, and the forfeiture of his territory, Cogan and Fitz-Stephen had a grant of it from Henry II., and after the capture of Cork, in 1177, went to Aghadoe to inspect their grant, and stayed there two days. It is said their visit was a pilgrimage, so that probably they went with some show of peaceful intentions. It is not improbable that the castle tower was the result of their visit. The base-court and earthwork may not improbably have been formed in 1584, when it appears from the Four Masters that Desmond was here encamped, and was attacked by a party of English cavalry, under Captain Sinitsee [Zouch], who stormed the camp by a sudden attack made on a Sunday morning, and slew many of the garrison. Either party holding the tower would be likely to strengthen it by such an outwork. Miss Stokes gives an admirable photograph, by Lord Dunraven, of the church, cloichtech, and castle.

Aghadoe is the only military building in the district attributable to the times of Strongbow. The other castles, such as Castle-Lough, Ross Castle, Pallis, Dunloe, and Killaha, are much later. Castle Lough stood on a point in Lough-Lean, and what remains of it, a mere mound, is in the grounds of the Lake View Hotel. Pallis Castle, a mile north of Beaufort Bridge, is also a mere small square mound, with fragments of foundations. Both were no doubt square towers of the sixteenth century.

Ross Castle, upon the neck of the peninsula of that name, is celebrated for its brief siege by Lord Broghill, Sir Hardress Waller, and the Parliamentary forces, in 1641. It was held by Lord Muskerry for his ward, Valentine Browne, ancestor of its present owner. It is composed of a large and lofty square keep, with a doorway at the ground-level, or nearly so, whence a well-stair ascends to the summit. Appended to the opposite face of the keep is a large rectangular building. Unfortunately this and most of the keep are walled up, so as to be quite inaccessible. The keep does not look Norman, but rather of the fifteenth century. In front of the keep, on the edge of the lake, is a sort of low outwork, composed of a short curtain between two bastion towers, commanding a central water-gate, and a part of a curtain, with round bastions, enclosed within which the tower stood. This looks earlier than the tower, but the whole needs a close examination.

There are two other castles, both late, which well deserve a visit, though more from the peculiarity of their positions than from their architectural merit. These are Dunloe and Killaha. Dunloe Castle stands upon the end of a rocky ridge, which rises between the confluence of the Loe with the Laune, the outlet of the Killarney lakes, and about a mile north of the celebrated ravine known as the Gap of Dunloe. The woods about the castle are fine, and the scenery very remarkable. The castle is a mere tower, square, or nearly so, and very lofty, with high gables set, like those of a Scottish peel, behind the rampart walk. It is inhabited. In the grounds is the celebrated Dunloe Cave, with Ogham inscriptions, discovered in 1838, and a killeen, one of those curious circular embanked burial-places said to be occupied by Chrisoms, or unbaptised infants, and those who died under the ban of the priest.

Killaha, called also O'Donoghue's Castle, is quite in another direction, about six miles east of Killarney, and a mile south of the railway. Its appearance from the Killarney road, crowning a rocky promontory, but rising out of woods, is very fine indeed. It is a small rectangular tower, about 50 ft. by 30 ft., divided within into two parts, of which one contains the small barred door of entrance, a vaulted porter's lodge, and part of a well stair. The basement of the other and rather larger part was the kitchen, lighted by small loops, and having a large fireplace.* The first floor has also a fireplace, and is looped. The second was the main floor. It has a large and handsome Palladian chimney-piece of marble, and the windows are tolerably large. At one angle is a small balcony. The third floor, also with a handsome chimney-piece, was the best bedroom; and the fourth floor is a sort of garret, in the gables, which are high-pitched and set back behind the rampart walk. The whole is of Tudor date, and does not appear to have had any outworks. Killaha and Dunloe are typical examples of a very common Irish castle of the sixteenth century, mostly built by English settlers, but sometimes by the native chiefs. The view from the castle to the south and east is wild beyond description. It looks down upon two small valleys, occupied by the Flesk and its tributary the Owneykeagh, beyond which rise a group of mountains from 1,500 ft. to 2,000 ft. high. The slopes and floor of the valleys are formed of beds of very rough gravel, and strewed thick with masses of granite, of all sizes and shapes, more or less water rolled, and evidently a part of a great ice drift. It scarcely requires a geologist to see that the agency of ice must have been in operation here for ages, detaching huge masses from the parent rock, and grinding crushing and depositing them over its track.

Besides Aghadoe, Inisfallen Chapel, and the abbey churches of that island and of Muckross, are several ancient and now ruined churches, though not of very high antiquity. These are Killalee, Killaha, and Muckross.

Killalee is on the road to Beaufort Bridge, four miles from Killarney, a ruin in a potato-field, draped with most luxuriant ivy. It is rectangular, about 30 ft. by 20 ft., with the side walls about 12 ft. high. The gables are standing, and the roof was of wood. It stands east and west, but has no west door. The entrance is in the south wall, towards its west end. It is now a mere breach, but the depressed pointed arch which covered it may still be seen. The east window was a long splayed loop. In the south wall is a square-headed loop, and near the east end a small piscina with a trefoiled ogee head, and a foliated basin. There is no opening in the north wall. The walls are built of large boulders, rudely coursed and laid in thick beds of mortar, the joints packed with spawls and fragments. The masonry looks old, but is only rude, for the pointed arches and ogee piscina show that the building is not older than the Early English period. Indeed, it looks of the Decorated.

The church at *Killaha* is also roofless and ivy-covered. It is rectangular, 60 ft. by 30 ft., and stands east and west. The doorway, now a breach, was in the south wall. There is a round-headed south loop, and east of it a plain cupboard. The east window is of two lights, long and narrow, with ogee heads, the only piece of ashlar in the building. In the north wall are two plain cupboards, one at each end. No windows. In the west wall no door, but a small loop high up. The roof was of timber, and is gone; the walls and gables are perfect. The exterior quoins are formed of large stones, apparently naturally squared. The whole structure seems of Late Decorated date.

The ruined church of *Muckross* stands in the cemetery, on the hill above the modern Protestant Church. It is rectangular, stands east and west, and measures 20 ft. by 11 ft. inside. Its roof is a rather acutely-pointed geometrical barrel vault. Its entrance is in the north wall, and the recess in which it stands is four-centred. The doorway is segmental. The east window is a loop of 9 in. opening, with a round head cut in a single stone. There are rude cupboards in the north and south walls, and at the east end a stone altar. Over the western end is a bell-gable, pierced by round-headed arches at right angles. Notwithstanding its small size, stone roof, and rude construction, it is difficult to regard this chapel as older than the Tudor period, though such may be the case with its walls.

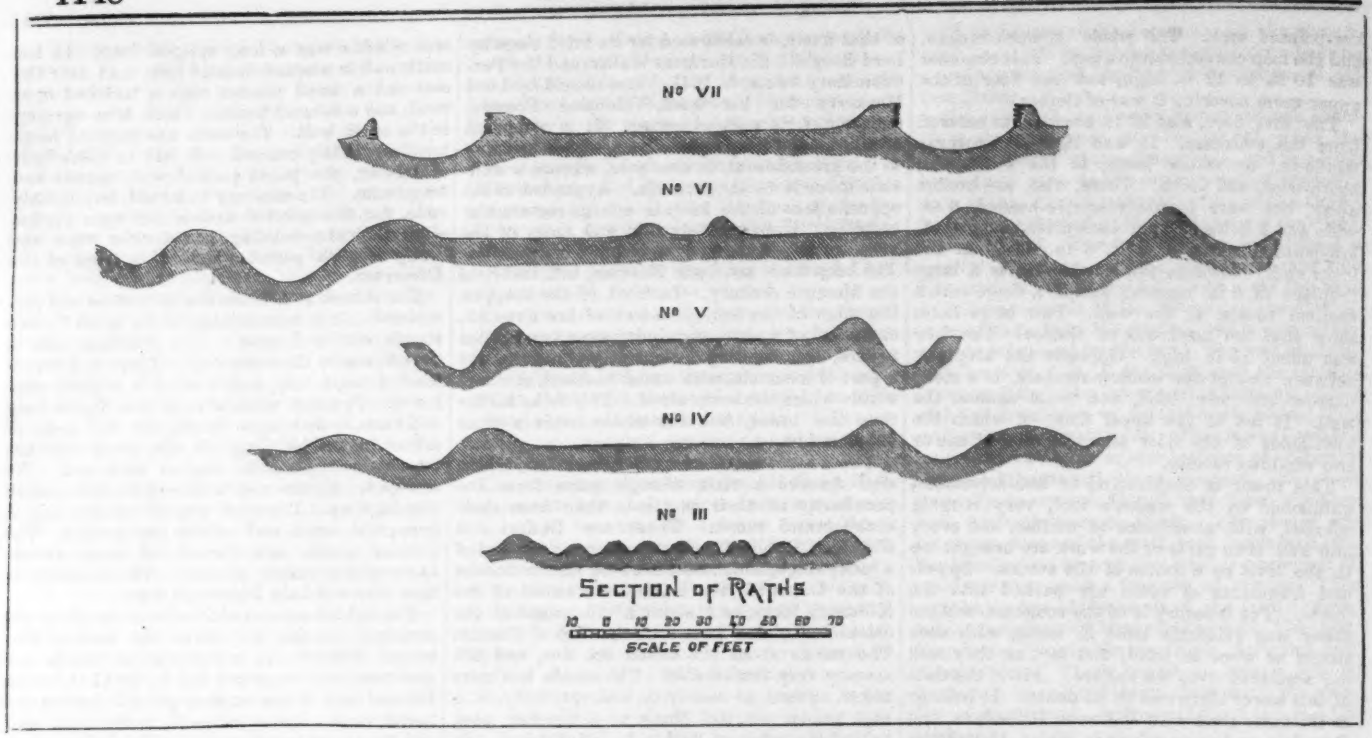
About two miles east of Killarney, near Woodford Bridge, is a small and curious *stone circle*.

Seven boulder stones are set in a circle about 15 ft. in diameter, and stand about 4 ft. high out of the ground. The circle is placed in the centre of a larger area, 60 ft. in diameter, contained within a bank of earth about 5 ft. high, and 9 ft. broad at the base. On the south-east side is a gap, and in advance of this entrance, 40 ft., are two upright stones, set 8 ft. apart, one 9 ft. and the other 6 ft. high, forming propylæa before the entrance. The ground is level, and there is no ditch or tumulus or anything indicating a burial. If it was merely a moot, or place of assembly, or in which courts were held, the inner circle seems superfluous; or it may have been a Pagan temple. The stones do not appear to be marked by the tool, or to bear any inscriptions or ancient marks of man. The structure of one of the large stones is brought out in ribbings by the weather, and these at first look artificial. There are some modern initials. Probably those who are conversant with Irish antiquities, and have examined other similar circles, may be able to throw some light on their use and date.

The most numerous, and not the least interesting of the antiquities around Killarney are the *Raths*, of which the Inch Ordnance shows twenty-eight within a radius of five miles, and there are a few others not there set down. The use of these works is clear enough, and their construction by the native Irish is now generally admitted. but their date is still a subject of controversy among Irish archæologists, though they certainly were in use at a very remote period. The word "Rath" is Irish, and is held to mean "security," and in a secondary sense a "village," an "artificial mound or barrow," and Lhwyd instances "Rioghrath,' a "prince's seat." The name and the thing are common all over Ireland, and occur in at least seventeen places in West Pembrokeshire. Earthworks very similar are found in other parts of the Principality and occasionally of England, but they are usually on very high ground, and not, like the Irish rath, readily accessible.

A rath is a mixed domestic and military structure, constructed for habitation and defence. Varieties of it are termed Raheen, Lios or Lisheen, Dun, Doon or Dooneen, Cathair, Cahir, or Caher. A rath is a circular earthwork, from 50 ft. to 150 ft. diameter, though occasionally much less and much more. The area is usually a little raised about the surrounding land, partly by original intention, partly by long continued

* There is a curious aperture from the porter's lodge, opening just outside the door, as though to enable the porter to observe, and, if need were, to shoot the visitor. There is also a loop in the form of a cross potent, opening from the kitchen, and looking upon the entrance-passage.



residence. The inclosure is a bank of earth, in its present condition from 4 ft. to 6 ft. or 8 ft. high and sometimes more, and outside the bank is usually, but not always a ditch, and in a few rare instances there is a ditch, but no bank. The ditch, however, is so general that in the Book of Armagh, rath is rendered by "fossa." Where there is no ditch it is probable that there was a natural knoll which needed only to be scarped, and, in part, levelled. A double bank and ditch are not uncommon, and there are examples of a third. Sometimes the inner face or scarp of the ditch is revetted with dry walling, which seems to be original. In the overwhelming number of cases the work is circular, but there are several examples of square raths, so marked on the Ordnance sheets, and a plan of one is given in the Transactions of the Kilkenny Society for 1867. There is some doubt as to whether these are real raths, or forts of the sixteenth and seventeenth centuries. Where the circle is inclosed by a regular wall of dry masonry, it is called a dun, and such are usually older than the ordinary rath, the defence of which is of earth. Many, perhaps most, of the raths contain subterranean chambers, called "uatha" or "caves." These are often extensive and connected by galleries, called "creeps," but almost always very narrow, low, and inconvenient, often only 4 ft. 6 in. high, and 4 ft. to 5 ft. wide, so that they have been regarded rather as storehouses for grain and valuables than for residence, though probably they were intended for both. These caves have almost always upright sides, supported by dry walling, and usually flat roofs from 4 ft. to 8 ft. below the surface, and formed of long stones, laid across. It is very common to find Ogham writing upon these stones, so placed as to show that they were not originally intended for such a purpose, and such, when read, are found usually to be monumental, and to have been originally set upright. Where this occurs it seems reasonable to infer a considerable period between the age of the Oghams and that of the cave, for had the original use of the stones been known, or the inscriptions understood, the natives would scarcely have so employed them. At Scart is a cavern within a circular rath, 6 ft. high, and covered in by overlapping stones. At Dunballogue, near Cork, a church has been built within a rath, and the chambers have been discovered beneath it. These caves, though commonly within a rath, are not always so; that of Dunloe, discovered in 1838, so famous for its oghams, opens in a field, on the edge of a steep bank. Sometimes foundations of rude stone huts or cloghauns are observed in a rath, and under the turf, black earth, bones of animals, querns, pots for cooking, personal ornaments, and weapons of all ages from flint and bone, bronze and iron, down to leaden bullets, the latter probably showing that the earthworks were employed as convenient parapets for musketeers. To whatever use the caverns were put, it is very certain that they could accommodate but a few of the ordinary inhabitants of a rath, and it is not clear in what sort of structures the people generally lived,—no doubt very often in stone huts, but as traces of such remains are by no means general, it seems likely that wigwams of wattle and skins were also in use.

It has been remarked that the banks of the raths are very often surmounted by a hawthorn hedge, the trees being of a great age. The hawthorn is a sacred tree with the Irish peasant, as the abode of the "good people," and this feeling has saved many a rath from conversion into top-dressing. It is possible that the original fence of a rath, superadded to its bank, was a "haia," or quickhedge, by no means a weak defence, and that these stocks are the originals, or represent them. Where regular cemented masonry is found, either in the containing wall of a rath or within its area, it seems to be an addition. It is said that such masonry is common in the square raths.

Dr. Graves, the learned Bishop of Limerick, has advanced an opinion that raths occur in threes, and he has thence supposed those mysterious concentric circles found occasionally upon rocks to be plans of raths. These works are certainly very often placed in clusters, and almost always within hail or sight of one another, and usually upon moderately high and dry ground, neither in a bog nor upon a mountain. The writers of the last century attributed them to the Danes, but their immense number shows them to be the work of the people of the country, besides which, though oghams form an original part of many of them, Runic inscriptions do not; add to which, they are intimately incorporated into the Celtic topographical nomenclature of the country; so that, though not, it is true, forming a part of the names of mountains or rivers, they enter into those of all classes of divisions, legal, social, and ecclesiastical. The general opinion now seems to be that they were thrown up in times when every man's hand was against his neighbour, and were intended for the winter residence of the people, and the safety of their cattle, when they were taken up from their summer pastures, and that many of them continued to be inhabited long within the historic period. They are also frequently mentioned by the annalists and native historians as native residences, and the larger ones,—as Tara, Rathcroghan, the Navan, and Brures,—as royal seats. The circular form is everywhere that first employed, being easiest to construct. In Ireland, the rectangular plan was introduced by the Christian missionaries, both for huts and for churches.

Of the raths near Killarney, the following may be noticed:—

I. A mile or more east of Aghadoe Church, north of the road, is a rath. It is circular, about 60 yards diameter within the earth bank, which is from 6 ft. to 8 ft. high, and is surrounded by a ditch, about 85 yards broad and 6 ft. or 8 ft. deep. Outside the ditch is a second and lower bank.

II. Half a mile east of Beaufort Bridge, south of the road, is a similar rath, circular, but 50 yards across, with banks 6 ft. high, and outside descending 12 ft. There does not seem to have been any ditch, and certainly no second bank.

III. North-east of Killarney, along the road that skirts the valley of the Deenagh, are several raths. That near Mount Pleasant House is 30 yards diameter within its bank, which is 3 yards broad and 4 ft. high inside, and 6 ft. outside. Whether it ever had an exterior ditch is doubtful. Its peculiarity is that the area is occupied by four or perhaps five concentric ditches, about 2 ft. to 3 ft. deep, and increasing in width towards the circumference. In the centre is a sort of mamelon, 6 ft. across, then a ditch 3 ft., then a bank 4 ft., then a second ditch 5 ft., then a second bank 5 ft., then a third ditch 6 ft., then a third bank 6 ft., a fourth ditch 6 ft., a fourth bank 7 ft. It is not probable than any one would have planted potatoes in such a fashion, and the trenches look old, but probably are not so. They could not have been part of a palisade defence, for the central space left is too small. Sections of this and the following raths are subjoined.

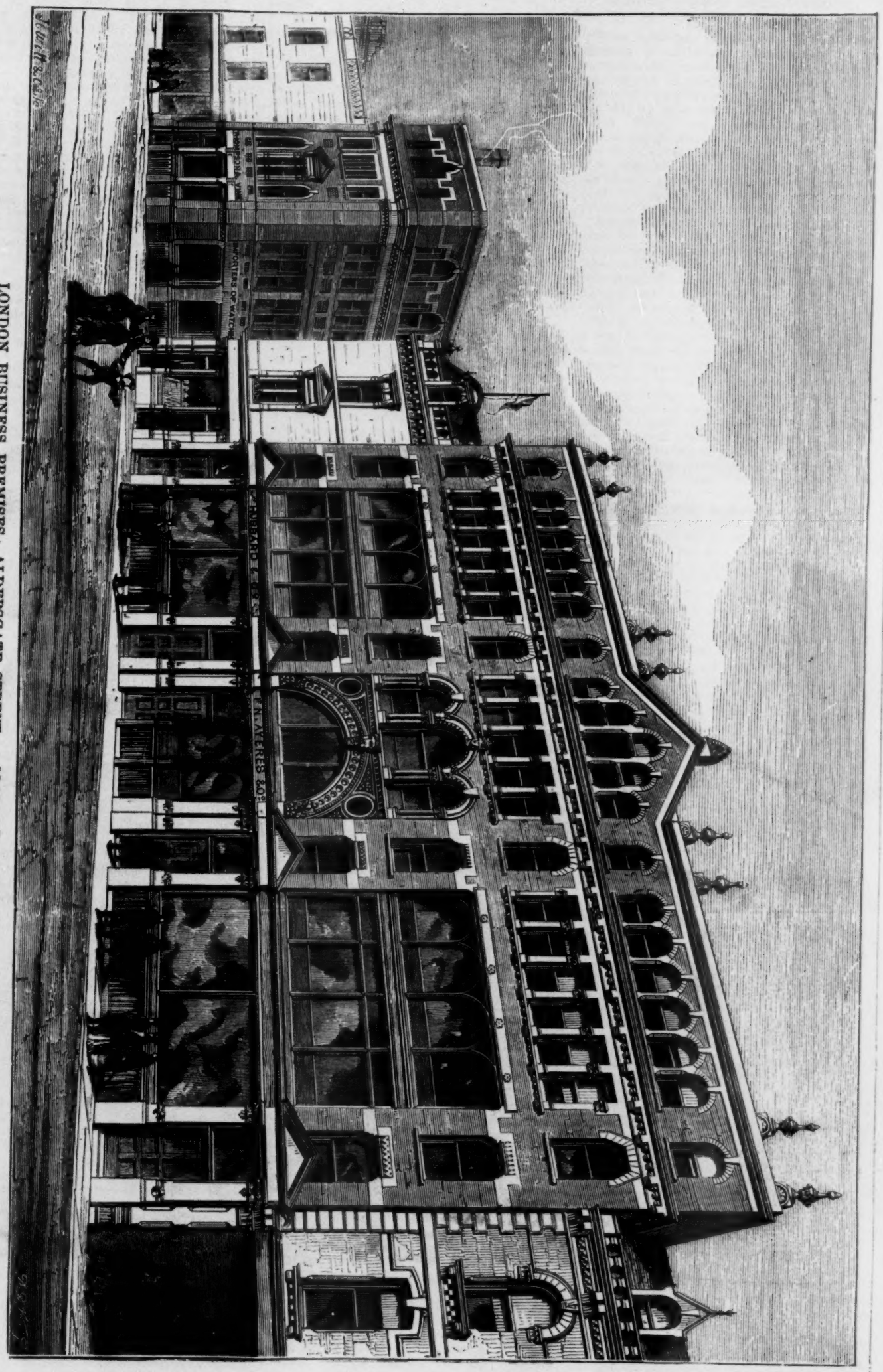
IV. The next rath is near the Hermitage, and on the rather steep slope of a small valley, occupied by the Deenagh. It is about 35 yards diameter, and has a bank 6 yards broad at its base, 6 ft. high inside, and 12 ft. outside, where it slopes towards a ditch, about 15 ft. broad. Beyond this is a second bank, about 15 ft. broad, surrounded by a second ditch, which, on one side, descends nearly to the river or rivulet. In this lower side is the mouth of a small cave, roofed with a stone lintel, not unlike the entrance to Dunloe, but choked up. Near it is a settlement as though a part of the roof had given way.

V. Farther on, near the national schools, is another rath, 30 yards diameter, with a bank 5 yards broad and 6 ft. high, and an exterior ditch 20 ft. broad.

VI. North-east of the last, on the top of some high ground, is a very large rath, 50 yards across. In its centre is a flat circular area 5 yards across, contained within a bank about 3 yards broad and 3 ft. high, where probably stood the hut of the chieftain. The circumscribing bank is 6 ft. high and 10 yards broad, and beyond it is a ditch 13 yards broad and 14 ft. deep. Then a second bank 5 yards broad and a second ditch 8 yards, so that the whole area covered is about 122 yards across. This rath is not only larger and stronger than those near it, but it overlooks a large turbary about the heads of the Deenagh, in which are the three small pools of Kilbream, Lookagh, and Doolig. Probably the head of the sept occupied this rath.

VII. Lissyviggeen. This rath lies three miles east of Killarney, between the road and the railway, very close to both. It is circular, 30 yards across, and surrounded by a bank

THE IMPERIAL GALLERY, BERLIN. —Messrs. Kyllman & Heyden, Architects.



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20 ft. thick and 6 ft. high, outside which is a ditch 12 yards broad and 12 ft. deep, and beyond that a bank. The peculiarity of this rath is that both banks towards the ditch are lined or revetted with dry stone walling, neatly laid, and now nearly concealed under moss and weeds. The substance of the banks is earth. Within the interior are traces of two huts with stone foundations, one 20 ft. long by 12 ft. wide, with a round end, and the other a sort of circle 12 ft. across; both abut upon the bank. The place of the door of the larger hut is seen.

Annexed to this paper is a table of the raths set down in the Inch Ordnance Map, whence it appears that while there are scarcely any in the counties of Dublin, Armagh, Tyrone, and Fermanagh, there are some hundreds in Kerry, Galway, Waterford, and Tipperary; but as the counties vary much in area, another table is added in which the percentage of raths to acreage is calculated, and the counties are set down in that order, whence it will appear that these works are scanty in the northern province, that of Ulster, and most frequent in Leinster and Munster. They are most rare in Tyrone, Cavan, Wicklow, Antrim, and Armagh; and most frequent in Carlow, Kilkenny, Longford, Westmeath, and Waterford. Something is, no doubt, due to the superior progress of agriculture in the north, and the Protestant disregard of the superstitions connected with them, but they must always have been comparatively rare in the North.

RATHS.

—	No.	Acres.	Per centage per 100 acres.	Counties in order of frequency.*
Dublin	7	248,000	·0028	Tyrone U.
Armagh	9	328,000	·0027	Cavan U.
Tyrone	11	764,000	·0014	Wicklow L.
Fermanagh	13	471,000	·0027	Antrim U.
Antrim	19	758,000	·0025	Armagh U.
Londonderry	20	518,000	·0038	Fermanagh U.
Sligo	30	434,000	·0062	Dublin L.
Down	32	611,000	·0052	Donegal U.
Louth	35	206,000	·0270	Londonderry U.
Leitrim	37	420,000	·0088	Down U.
Donegal	43	1,165,000	·0036	Sligo C.
King's County	58	528,000	·0109	Mayo C.
Meath	71	567,000	·0125	Leitrim C.
Cavan	74	473,000	·0015	King's Co. L.
Kildare	85	392,000	·0216	Meath L.
Monaghan	90	327,000	·0275	Cork M.
Wicklow	100	4,940,000	·0020	Clare M.
Carlow	101	219,000	·0460	Kildare L.
Queen's County	102	396,000	·0250	Galway C.
Mayo	105	1,355,000	·0070	Q. County L.
Roscommon	123	609,000	·0250	Roscommon C.
Longford	164	263,000	·0620	Louth L.
Clare	176	862,000	·0210	Monaghan U.
Wexford	182	564,000	·0320	Kerry M.
Cork	189	1,739,000	·0160	Wexford L.
Kilkenny	241	513,000	·0470	Limerick M.
Westmeath	250	386,000	·0650	Tipperary M.
Limerick	241	674,000	·0360	Carlow L.
Kerry	319	1,148,000	·0270	Kilkenny L.
Galway	338	1,510,000	·0220	Longford L.
Waterford	339	471,000	·0720	Westmeath L.
Tipperary	406	1,013,000	·0400	Waterford M.
	4,030			

G. T. C.

THE KAISERGALLERIE IN BERLIN.

The Kaisergallerie, or Imperial Gallery, in Berlin, at the corner of the Behrenstrasse and Friedrichstrasse, is not what popular language would designate by that name: it is neither more nor less than a passage of the nature of Burlington Arcade, only on a far grander scale, and with the addition of a large restaurant, and immense cellarage underneath. Such as it is, however, it rises, in one of the most busy neighbourhoods of Berlin, a handsome building in rich Renaissance style, adorned with turrets and gables. Its front towards the Behrenstrasse has a length of 300 ft., its principal entrance at its corner leading to one of the most elegant passages of shops. This arcade forms a space 26 ft. wide, 42 ft. high, covered with glass, with first-rate shops on both sides. About halfway through this passage widens out into an octagon 50 ft. in diameter, from which another passage leads to the entrance in Unter den Linden.

It has been stated that the execution of the plan had become a necessity. The narrow footpath of the Friedrichstrasse no longer sufficed for the great stream of life continually flowing from the south to Unter den Linden and the Brandenburg Gate. The establishment of the new communication has diverted the stream, and at the same time offered an excellent opportunity to many business people to display their goods.

The wall surfaces of the passage are divided into ornamented smaller arcades, which, to the extent of 1,200 ft., offer ample space for numerous shops. A wrought-iron railing, gilded, runs along the shop windows; the floor has been covered throughout with ribbed yellow paving-tiles. Terra-cotta has generally been employed in the interior architecture, Herren E. March Söhne having executed the ornamental and figure work after the designs of the sculptors Afinger, Enke, Wittich, and Calandrelli. The whole has an airy as well as suitable effect. The ventilation of the passage is especially praised; it is effected without mechanical contrivances through the glass roof. The fact of the floor rising gradually from the Behrenstrasse towards Unter den Linden, and the axis running in a direction from north to south, is said to contribute materially in this respect, an equilibrium of temperature from the southern portal exposed to the sun to the northern one lying in the shade being thereby effected.

A good idea of the purposes of the large building is best obtained by an inspection of the vast cellarage. The floor of the latter is formed of inverted arches, filled up to a uniform level with concrete, the latter being covered by several layers of flat roofing tiles set in cement. Underground water, which should, notwithstanding, find its way in, may be removed at once by a steam-pump erected for the purpose. The whole *souterrain* is crossed by several sets of rails, connected by turntables, by which goods and stores may be removed to the different vaults. Each business, consequently, established in the Gallery may possess besides a perfectly dry and closed warehouse. The extensive system of water-pipes also extends throughout the entire basement, which contains besides the apparatus for warming with hot air and hot water; a steam-engine for the ventilation of the upper rooms, and spacious kitchens with large cooking stoves for the restaurant. Lifts are constructed for raising the food sent from the kitchen to the second and third stories. In the cellars are also the winding-machines for raising the heavy iron doors for closing the two portals. They are not hung, but are let down in the morning, and forced up in the evening.

Stairs lead from the cellar to the large restaurant, with which are connected a confectioner's and a Vienna *café*, and which extends round the passage in a series of large and small rooms, handsomely decorated. They may all be used at the same time by different parties, as they can all be shut off one from another, it being possible to accommodate as many as twenty parties with a total number of 3,000 persons. The balcony on the first floor belongs to the great hall of the restaurant, adjoining which are a number of comfortable rooms and cabinets for small and smallest parties. In the same story is the dining-hall, which accommodates several hundred persons. Every nation may dine here after its own fashion, for there are French, English, Italian, Spanish, Vienna, Hamburg, and Berlin cooks, and wines from all countries, from the dearest and finest down to the ordinary and cheap, are offered. One story higher, there is the same accommodation, with this difference, however, that the space occupied by the great dining-hall below is taken up by rooms containing together twenty-five billiard-tables. Over the restaurant are vast stores, and yet one story higher is a photographic establishment receiving its light first hand. The Vienna *café* mentioned above is in the ground story. From it a staircase leads to the smoking and reading room, as well as to a gallery whence a view may be obtained of the principal room. Behind the façade towards the Unter den Linden, where an alternation of sandstone and brick produces a pleasing effect, is the great ball and concert room, with ample space for 1,000 persons. Its walls and ceiling are adorned with frescoes by Begas, Hildebrand, and Ewald, and its windows by coloured glass, executed by Swertskoff, of München. The lighting is of a brilliant description. There is also a post and telegraph office in the building.

The architects are Herren Kyllmann and Heyden. The arcade and concert-room were opened by the Emperor in person followed by a numerous suite. Hence its name, "Kaisergallerie." After the concert the company invited proceeded to the dining-hall, where a sumptuous banquet, and afterwards a ball, attended by the Emperor, in the great ball-room, concluded the proceedings.

LONDON STREET ARCHITECTURE: ALDERSGATE STREET.

The buildings illustrated afford another example of the rapid transformation which London is daily undergoing, and which is such a marked sign of progress and wealth. Everywhere do we see old and inconvenient dwellings replaced by large and convenient business premises. The demand for warehouse room must be met, though often at the expense of the homes of the labouring population; but their removal again creates a new demand, which must in its turn be supplied by improved dwellings: so that in the end it is to be hoped all classes will be benefited by the general "move on."

The site on which these houses stand was but lately occupied by small shops, with miserably low ceilings, and dirty, ill-ventilated back buildings, and in the rear by stables, immediately over which there dwelt in small and crowded rooms a large number of the labouring poor.

The formation of new streets makes it at all times a somewhat difficult matter for ejected tenants to find convenient sites for their business or manufacturing purposes, and involves the necessity of converting dwellings into trade premises to meet this want, and often at highly increased rents.

The absolute demand made by the manufacturer for space and light, oftentimes with an utter disregard to the appearance of the premises from an architectural point of view, renders it difficult for the architect to satisfy both the wishes of his client and the claims of art. Still the problem must continually be attacked, though the result may meet with varying criticism.

In the present structures, the largest possible amount of light has been obtained for ground, first, and second floors, while sufficient brickwork is left at the sides to satisfy the demand for stability and fitness to carry the upper floors.

The decision not entirely to remove the public-house at the corner, but merely to improve the front, and the introduction of the new street, have considerably broken up the line of frontage; sufficient, however, has been secured in one block to produce a complete façade. The centre is being erected for Mr. F. H. Ayres, cabinet-maker, and the remainder is let to various tenants.

The architects who have had the management of the estate under the sanction of the Court of Chancery, and who have by the alterations, as we hear, greatly increased the income of their clients, are Messrs. Lander & Bedells; and the builders for the different portions have been Mr. E. King, Messrs. Williams & Son, and Mr. R. Rose.

THE ARCHITECTURAL ASSOCIATION.

The first ordinary general meeting of this Association for Session 1877–78 was held on Friday, the 9th inst., at Conduit-street, Mr. Bowes A. Paice, president, in the chair.

The following new members (twenty-eight in all) were duly elected, viz.: Messrs. T. H. Eagles, M.A.; Cecil H. Scott, Alfred H. Gansden, A. R. Scott, H. G. Nixon, F. H. Gaudin, E. C. Pinks, W. E. Clifton, J. S. Trott, A. T. Ellison, P. Childs, jun., C. A. Ewing, J. C. Woods, A. B. Plummer, R. B. Whitaker, W. H. Duffield, E. H. Lloyd, T. G. Lorton, R. J. Beale, J. L. Houston, T. C. Cunnington, E. D. Hoyland, R. A. Briggs, P. E. Ridge, S. Bury, C. T. Coggin, A. H. Molesworth, and R. H. Kerr. Thirty other gentlemen were proposed for membership.*

Mr. R. C. Page, one of the hon. secretaries, read a letter from the Royal Institute of British Architects, calling attention to the facilities now offered to members of the Association for studying in the library of the Institute.

The President hoped the members would take advantage of the very important and valuable concession on the part of the Institute. He moved a cordial vote of thanks to the council for having made the concession, which, although extended to one or two smaller bodies of students, was primarily made in the interest of the members of the Association. Mr. J. Douglass Mathews seconded the motion, which was heartily agreed to.

Mr. Hayes proposed votes of thanks to the

* The letters U. L. M. C. indicate the provinces.

* This will bring the total number of members up to more than 800, seeing that at the commencement of the session the Association had, according to the "Brown Book," a total of 753 members, of whom 621 are resident in London. At this rate of increase the Association bids fair to have a roll of 1,000 members next year or the year after.

Council of the Institute for their kindness in giving their meeting-room and library for the use of the Association at the recent *conversazione*; to the various friends who lent drawings and other objects on the same occasion; and to the Entertainments Sub-Committee (especially to the secretary, Mr. H. H. Stannus) for their labours in connexion with the same gathering. These were, of course, agreed to, as was a special vote of thanks to Miss Catherine Jones (sister of the late Mr. Owen Jones) for a valuable presentation by her to the Association of some of her brother's drawings, referred to more particularly in our report of the *conversazione* a fortnight ago. It was incidentally mentioned that these drawings had been obtained for the Association by the instrumentality of Mr. Joseph Bonomi (of Sir John Soane's Museum) and Mr. Stannus.

Various donations to the Library were announced, and thanks accorded to the donors.

The *Annual Report* for the past session was taken as read, and unanimously adopted. In it the committee express continued satisfaction at the steady increase in the number of members and at the great amount of interest taken in the proceedings of the Association both by the members and the profession at large. The following are extracts from the report:—

The cordial relations maintained between the Association and the Royal Institute of British Architects are especially matter of congratulation. An opportunity of affording the support due from the junior to the senior professional society occurred during the past session, when a sub-committee was appointed to co-operate with the council of the Institute in its action in the matter of "Illicit Commissions." On the question of competitions also your sub-committee received courteous attention from the Institute, whilst in abolishing its class of students, and opening its Library to our members, and in affording facilities for election as associates, the Institute has still more strongly marked its appreciation of the educational work which the Association is carrying on. The committee feel assured that the Association will do its best to continue to deserve the encouraging confidence thus shown, and the interest taken in its progress and welfare by the leading professional society.

The new rules, after much discussion and consideration, have been adopted.

The classes have, on the whole, been well attended, but it is the wish of the committee that members should avail themselves of the advantages offered to a larger extent than they do, and it is desirable that members of the classes should interest themselves as much as possible in their management, as individual effort is required to carry on the work satisfactorily.

The sub-committee appointed to consider what measures, if any, should be taken by the Association in the matter of competitions, has collected the opinions of members on the subject, with the result that the Institute has been asked to take the lead in further steps which it is hoped will be of advantage to the profession, and has issued a circular upon the subject to its members.

The Saturday afternoon visits (always popular with the members), have been well attended, and much interest was shown in the practical questions brought under notice by those in charge of the works visited. It is hoped that next session the visits to ancient buildings will be resumed.

The Birmingham Branch is making satisfactory progress, and its members have availed themselves to a large extent of the use of the library. They have also joined in the work of the classes, fairly holding their own against the London students.

Reference to the balance-sheet shows that the financial position is satisfactory.

The report concludes with a few well-timed words on behalf of that most deserving institution, the Architects' Benevolent Society.

The balance-sheet showed the total receipts for the past session to have been 529*l.* 17*s.* 1*d.*, as against a total expenditure of 440*l.* 18*s.* 9*d.*, leaving a cash balance amounting to 88*l.* 18*s.* 4*d.* in the hands of the treasurer, Mr. J. Douglass Mathews, who, in moving the adoption of the balance-sheet, animadverted upon the satisfactory position of the Association financially, and said that the Association had nothing in the shape of a fund, having always gone upon the principle of spending its full income in the general work of the Association for the benefit of the members; but he thought that as the balance in hand was much larger than it had ever been before, it would be desirable to invest 50*l.* as the nucleus of a fund which could be made available at any time if required for the purposes of the Association. Mr. Riddett seconded the adoption of the balance-sheet, and said he thought the suggestion made by the treasurer a very good one, and the fund invested might come in useful in fitting-up more suitable premises should they ever be obtained. By mutual consent the suggestion was referred to the committee for consideration, and a vote of thanks was given to the auditors, Messrs. Alexander Payne and R. L. Cox.

The Library.—Mr. R. E. Pownall, the librarian, brought forward the report of the Library Sub-Committee, which expressed satisfaction at the use which had been made of the library; 1,239 works had been taken out on the thirty-three evenings the library had been opened, exclusive of those sent to Birmingham for the use of the Birmingham branch of the Association. A new and complete catalogue had been issued. During the session the committee of the Association had made a grant of 40*l.* to the library for the purchase of books, &c. The total receipts were 54*l.* 15*s.* 8*d.*, 27*l.* 15*s.* 9*d.* had been spent in the purchase of new works. The balance in hand amounted to 14*l.* 4*s.* 6*d.* The report was, on the motion of Mr. Pownall, seconded by Mr. H. H. Statham, unanimously adopted.

Class of Design.—Mr. Page presented the report of the Class of Design, which said that the work of the past session was not so satisfactory as that of the previous session, there being only twenty-five members as against thirty-four. Fourteen meetings were held, at which 107 members contributed 110 designs. Mr. Page, in moving the adoption of the report, said he was afraid that the class would have fared very badly had it not been for the sketches submitted by the Birmingham members. Mr. Stannus seconded the adoption of the report, which was agreed to.

Elementary Class of Design.—The report of this class, which was agreed to, showed that the number of members last session was twenty-four as against forty-three in the previous session. The number of sketches submitted was thirty as against twenty-seven in the previous session.

Class for the Study of Colour Decoration.—The report of this class, the adoption of which was agreed to on the motion of Mr. H. W. Pratt, stated that the number of members was the same as in the two previous sessions. Ten meetings were held during the session, the total number of attendances being eighty-two; number of sketches submitted, 36, showing a slight increase on previous sessions. Six papers on subjects relating to decoration were prepared and read by members in the class.

The Architectural Science Class report stated that the number of members for the past session was twenty, the number of papers submitted being nine. The report was agreed to.

Class of Construction and Practice.—The report of this class showed that the past session was the most successful which it had had since its commencement. Although there was a slight falling off in the number of members, the average attendance and the number of papers sent in show a considerable increase, as will be seen by the following:—

	Session 1874-75.	Session 1875-76.	Session 1876-77.
Number of members.....	62	63	60
Members at each meeting	22	22	27
Papers	114	111	133

Three members of the Birmingham branch joined the class, and two of these contributed papers to all the meetings, thereby setting an example of industry which it would be well for some of the London members to follow. The papers were quite up to the standard of former years. The increased success of the Class was largely to be attributed to the labours of the "Visitors," who had done their utmost to make the Class useful and instructive. The report was adopted, a suggestion being made by Mr. Maylard that this Class, and the Architectural Science Class, might increase the value of their work if a sort of sketch-book of construction were established, members contributing sketches of constructive details, traced from drawings in progress in the offices in which they were engaged, to which, he imagined, no objection would be made by employers.

The Surveying Class was held as usual, under the direction of Mr. E. Bennett. Twelve meetings were held, six outdoors and six indoors.

The Birmingham Branch.—The report of the Birmingham Branch congratulates the members on the progress which has been made, not only with the increased interest manifested by the members, and in the enlarged attendances at the meetings, but also in having acquired rooms for its own exclusive use in Queen's College, Paradise-street. The only prize competed for during the preceding session was that for Time Sketching, which was awarded to Mr. J. W. Fisher. The classes have been fairly successful, the average attendance being very good. The library has been very well patronised by the majority of the members. The Saturday afternoon visits to buildings in course of erection were generally well attended. At the commencement of the session it was decided that a sketch-book should be published by the Association, and a "Sketch-book Committee" was appointed. The first three quarterly parts of vol. i. have already been published. The report was adopted, on the motion of Mr. Hayes.

The Sketch-book.—Mr. Maylard made a statement in reference to the progress of the Architectural Association Sketch-book.

Annual Excursion.—Mr. Pink read the report of the eighth annual excursion, which took place a few months ago, when Warwick, Coventry, Kenilworth, and the neighbourhood were visited. Special mention was made in the report of services rendered by Mr. Fowler, of Louth, and Mr. J. Tom Burgess, of Leamington. The report was unanimously adopted.

The President, Mr. Bowes A. Paice, then read his opening address, the greater part of which we publish in another part of our paper.

Mr. J. Douglass Mathews, in moving a vote of thanks to the President for his address, congratulated him in having attained that position after years of hard work in connexion with the Association. He (Mr. Mathews) earnestly hoped that the members at large would take to heart the words of the President when he counselled them to join the classes of the Association, for these classes were, after all, the secret of the success of the Association. If ever there were dearth of members willing to join the classes, and to assist in their management, the Association would decline in usefulness. It was gratifying to know of the cordial relations subsisting between the Institute and the Association, for each body had its own work to do. The Institute had recognised the claims of the Association as an educating body by abolishing the class of Students, which was a good thing for the Association, and also for the Institute, for the former was strengthened, and the latter had got rid of a dead branch. As to the system of "articling," at the present time the whole system of apprenticeship and articleship seemed to be falling into disuse. In former times it was necessary that a man should be bound to a trade before he could follow it, but unfortunately, as the architects of the present day knew too well, men were allowed to work at trades without having received any proper training. This was a great evil, and a source of endless trouble to architects and master builders. He did not quite follow the President's idea as to the probationary system of articleship. He did not think many architects would care about having a youth in his office for the first twelve months of his pupilage with the certainty that he would go away at the end of the year. If it were necessary to have a term of probation at all, it would be desirable that the probationary period should be served in the office where the pupil was to be articled. Later on in his career of pupilage he might, perhaps, advantageously transfer his services to some other office, subject to arrangement. He agreed with the President's suggestion that instead of young architects trying to make a name by competition they would do far better to work for their former employers for three days a week,—a desirable arrangement not only for the young men themselves, but for their employers. It was desirable to encourage the association of the younger architects with their seniors, and one way of doing this would be by dispensing with the ordinary "clerks of works," and appointing young architects as "resident architects" who should be responsible for the due carrying out of the designs of the chief or designing architect. As to the suggested Architectural Association magazine, the subject had been before the committee several times during the past few years, but they did not see their way clear to carry it out. It would, no doubt, be a desirable thing if their Transactions could be published in a regular form, but at the same time he should be sorry to see the reports suppressed in the professional papers.

Mr. H. H. Statham seconded the vote of thanks, and observed that the very general tone of melancholy and dissatisfaction about the reports of the classes was in itself a healthy sign as an indication of the vitality of the Association. When people were not easily satisfied with their exertions, they sought to make greater efforts.

Mr. Clarkson, in supporting the motion, said, with reference to the proposed magazine, that he had a sort of general idea that they were rather overburdened with "Transactions" already, and that if in some way they could endeavour to compress the amount of architectural pabulum in the world it would be better for everybody. As to the question of pupilage, he thought that the scheme put forward by the President was quite practicable if the parents would take the trouble to interest themselves in the matter. As a rule, parents were anxious to get their

sons actively employed. They had a sort of general idea that if their sons were possessed of fair talents they would master their profession somehow. There was a good deal of truth in this, no doubt; it was the necessity of having to make exertions that brought out the talents of people in the majority of cases. Any special carefulness in the beginning might defeat itself by not making the pupil self-reliant. The particular thing that seemed to be wanting was some text-book which should give intending pupils and their parents some idea of the work of the profession before making up their minds on the subject. Unfortunately, large sections of the public had not the slightest idea of an architect's work.

The motion having been carried, the meeting terminated. The next meeting will be held on the 23rd inst., when a paper will be read by Mr. J. P. St. Aubyn, entitled, "Notes upon Cornish Churches."

"ARTICLED PUPILS."—COMPETITIONS.

THE PRESIDENT'S ADDRESS, ARCHITECTURAL ASSOCIATION.

At the first ordinary meeting of the Architectural Association for the present session, elsewhere referred to, the President, Mr. Bowes A. Paice, delivered an opening address. He said: By a somewhat curious coincidence both the senior and junior societies have been placing their houses in order at the same time. The Royal Institute of British Architects has been revising its bye-laws, and as some of these affect the members of the Architectural Association, I hope I may be permitted to make a brief allusion to them. The alterations of the bye-laws were suggested by the reports made by certain sub-committees appointed by the council to take into consideration various matters relating to the improvement of the Institute. The points raised of special interest to us are,—(1) the relation of the Institute to kindred societies; (2) facilities for study; and (3) conditions of membership. In regard to the relations of the Institute to kindred societies, the Architectural Association came in for its full share of consideration. Both societies were agreed that amalgamation was neither practicable nor desirable, and that each society had and should keep to its own special sphere of usefulness in which to work. That the Association has a special sphere in which to work is fully recognised in the report of the committee for the improvement of the Institute, adopted at a special general meeting in March last. It is there stated, "They [the committee] recommend that all possible encouragement should be given to the Association in its educational work, and that the Institute, which has never charged itself with similar functions, should no longer contain the class of Students which for many years past has been a merely nominal one, and the existence of which conveys a wrong impression." It will thus be seen that the Institute abandons any attempt at being an educating body, but is willing to co-operate with and give every encouragement to the Association in carrying on the work of education. This leads me to the second point, viz., facilities for study. Here, again, the Institute has come to our assistance, by allowing our members the privilege of access to one of the finest art libraries in the kingdom, the regulations for admission being the official recommendation of your president, the payment of a small annual fee, and subject to approval of the council; and in order to give every opportunity to students to avail themselves of this privilege, the council has made arrangements to keep the library open from ten in the morning to nine at night every week-day except Saturday, when it will be closed at two. It is hoped that our members will appreciate this concession by making frequent use of it, and I am quite sure that the courteous librarian, Mr. Kershaw, will be delighted to have a room full of readers. And now one word in regard to the conditions of membership. It having been represented to the council that our senior members, when desirous of becoming Associates, frequently find it somewhat difficult to obtain the signatures of three Fellows from "*personal* knowledge," it has been made a bye-law that in the case of members of the London Architectural Association desirous of being admitted as Associates the nomination form may be signed by one Fellow of the Institute and by the President, and at least three members of the Committee of the Architectural Association It will thus be seen that membership of the Association is now recognised in the bye-laws of the Institute as a stepping-stone to the membership of the senior society; and, in the words of our annual report, "The Institute has still more strongly marked its appreciation of the educational work which the Association is carrying out. The Committee feel assured that the Association will do its best to continue to deserve the encouraging confidence thus shown and the interest taken in its progress and welfare by the leading professional society." So much for the relationships between the two London societies.

In respect to the various classes, our annual report tells us that last session they were, on the whole, well attended, but that there was a tendency on the part of the members to neglect to interest themselves in their management. Now I consider this much to be regretted, for I believe that the success which has hitherto attended the classes has been greatly due, not only to the officers, but also to the individual efforts of the members in assisting them to conduct the classes. And here I would urge upon all my younger brethren, more especially those who are joining our ranks to-night, the advantage of at once entering one or more of our classes, and of taking an active interest in their working. Do not delay. It will, no doubt, be hard work for you at first, but you will be amply repaid for it. The valuable information you will gain will cause you to take a much greater interest in your office work, and will be of inestimable value to you later on in life. Another benefit to you will be the making of friendships, which is so much easier to do in the class-room than at our ordinary meetings. And who, I would ask, would for one moment deny but that such making of friendships is indeed a benefit? Does it not cheer one on to come here, Friday after Friday, to meet again the familiar faces, to grasp each other by the hand, and to assist each other in any problem we may have to solve? Can you delay joining the classes? The longer you put it off the more difficult will it become, and the opportunity lost cannot be regained. As you grow older you will have other claims upon your time, and you will always regret the day that you declined to join the classes. While speaking on this subject of work that has to be done outside the office, I would strongly urge the desirability of attending a course of lectures on the anatomy of the human figure. To have only a slight knowledge of the skeleton in general and its component parts, the contours of the external surface of the body, the muscles, and the forms produced by the movement of the head, neck, and limbs, and, above all, proportion, is a wonderful assistance to the architect, more especially in the preparation of drawings where figure subjects have to be introduced. A most valuable course of lectures is given at South Kensington by Dr. Bellamy every Thursday evening during the winter months, commencing on the 15th inst., at which students can attend on payment of a merely nominal fee. Before leaving the subject of classes and the means afforded to students for the purpose of study, whereby the hand as well as the eye can be trained to appreciate the beautiful in art, it would indeed be an omission were I not to mention the Architectural Museum at Westminster. "Here," as Sir Gilbert Scott remarks, "it is true the student will find within the structure no architectural beauty, but a stark and unambitious interior of naked brick and timber; but he will be startled at finding himself surrounded by innumerable models of an architectural art workmanship culled from the most famous buildings of our own and other countries, and forming a complete illustration of the carving and other arts of the Middle Ages and (though in a less degree) of those of classic antiquity. The more he examines the contents of this simple building, the more will he appreciate and the more surprise will he find at their number, their variety, and their beauty." It would be difficult to over-estimate the very great benefit to the student arising from the systematic study of architectural details arranged in a chronological order; and it is with the view of increasing the interest of students in the valuable and extensive collection of casts and examples that a sketching-club has been formed in connexion with the museum. A prize of five guineas is offered by the council for the best series of sketches exhibited at the annual exhibition. They are to be made from objects in the museum, executed in pen and ink, so that if successful the young student may have the additional pleasure of seeing his sketches reproduced by photolithography.

The opening address of a president of this Association must necessarily be somewhat of a gossipy character, and I cannot but expect that the few remarks I am about to make will not be received with unanimous approval. I could hardly wish it otherwise, for were we all agreed, discussion would cease, and we might be hastening on reforms which eventually might prove to have been a mistake. Borrowing terms from the President of the Institute, I will, with your permission, say a few words on the outer life of the profession rather than on the inner life of the Association, and I hope that you will at least give me credit for speaking my own thoughts in a humble but honest and straightforward manner.

First, in respect to "articles" and premiums, I cannot help thinking that the present system of binding a young man for four or five years, and paying a large premium at the outset, is the bane of the architectural profession. It is entered upon by many with too much of the commercial spirit. It is regarded as a sort of "paying concern," whereas the majority of those who have been in the profession for some time know full well that it requires years of unceasing but loving toil in order to become the fortunate possessor of even a moderate income. No; there must be no hurry for worldly gain; the work must be undertaken purely and simply for the love of the art, and by those, and those only, who can appreciate its beauties, who will study its various phases, and who intend to labour with a lifelong patience. Let it be conceded that this is the spirit in which to enter the profession, I will ask the question,—Should there not be some means whereby a young man's capabilities and his fitness for the calling could be tested previously, not only to his being bound for a series of years, but also to the payment of a large premium? But here let me interpolate the remark that I know there have been instances of eminent architects waiving the recognised system of premiums when they could perceive elements of latent talent, and when they have found that the means of the would-be pupil were not only limited but narrow,—and all honour to them for doing so! To proceed, however, is it not frequently found to be the case that many, after having been articled, find that they have no real love for their work,—that they take no interest in it whatever? They soon begin to realise that they have mistaken their calling, and would gladly turn their steps to try their fortune in some other walk of life; but they are bound for four or five years, the premium has been paid, and they must endure their weary existence as best they can. I believe that a boy could be made to learn carpentry without either feeling or devotion; but I very much doubt whether any one could be so successful as to make a boy or young man without such qualities learn the practice and study of architecture. Now let us inquire by what means this state of things can be remedied. I have mentioned on a previous occasion* how necessary it is that an architect should have a sound education, and without entering upon the merits or demerits of the system of architectural education adopted by the French and German schools, I will content myself with a few and I hope suggestive remarks not unworthy of quiet thought for the improvement of our own system in England. Granted that a young man is desirous of entering the architectural profession, and, as a preliminary to such a step, has had an ordinary education, is thoroughly acquainted with those books of Euclid which are usually read, has attended a course of lectures on natural philosophy, has an acquaintance with the modern languages, and some knowledge of the dead languages, and, above all, has a taste for drawing, and a knowledge of the use of mathematical drawing instruments; with these elementary qualifications I imagine it would be better for such a one were he to enter the office of an architect as a probationer for one year, rather than at once being bound for a much longer period. During his term of probationship he would have an opportunity of seeing the ordinary routine of the business of an architect's office. He could attend the lectures on architecture and construction at University College or King's College; he could attend our own Elementary Class of Design, and take advantage of the other opportunities offered by the Association, in order to gain an insight into what

* *Builder*, p. 1100, *ante*.

really are the requirements of the profession; and then if, at the close of the year the student were really satisfied that he could follow the profession with an earnestness of heart which had already shown itself by his zeal, then, I say, and not till then, should he be articled. In fact, I would make entering the profession as an articled pupil conditional on passing a preliminary examination at the Institute. Then, I venture to think, we should have real students,—young men who have made up their minds to follow the profession, and who intend to make the best use of their time, not wasting it in frivolous amusements, but rather, by improving their minds, not only by close study, but also by surrounding themselves with the beautiful in art so far as their limited means will admit, even if their rooms be on an attic floor in a back street of one of our London squares. Let me, however, qualify the words I have just used,—"frivolous amusements." By saying that, I would not for one moment be thought or be guilty of casting any insinuations upon those whom I have the honour now of addressing, nor upon architectural students in general, for I believe that they are more earnest in their work, more active in their labours, and more anxious for opportunities of study in this year of grace 1877 than they have been at any previous time; but it is to improving their condition, firstly, in their relations to the senior members of the profession, and eventually in the eyes of the public, that my remarks are now directed. Gentlemen, it suffices me just to have touched upon the subject of articles and premiums, and where it appears to me some reform is necessary. How to carry out that reform must be left to more mature consideration, but I am inclined to think that the premium should be paid annually, as a college fee, rather than in a lump sum; and I would also suggest that the student should not be articled to the architect with whom he has served his probationship, as by a change he would have an opportunity of seeing another class of work, which would assist his education, and tend to guard against the loss of individuality.

And now let me turn your thoughts to another matter, also of great interest to the younger members of the profession, viz., the subject of competitions. It has been said that this is a subject for the Institute to take up, and that it is not within the province of this Association. Perhaps not, as a society, but although the Association is an educating body, yet a very large proportion of its members are either acting as assistants, or are commencing practice for themselves, and it is from the young men just starting in life that the ranks of the great army of competitors are being largely recruited, for by this means, it is said, they hope to get a connexion. With the senior members it is different, for they have already established practices, sufficiently large in most instances to fully occupy their time without embarking on the sea of an open competition. You are aware that a sub-committee was recently appointed to take into its consideration the subject of competitions, and to ascertain whether or not it was thought desirable that the Association as a body shou'd take any action in the matter. Mr. Pownall, the energetic secretary of that sub-committee, will bring forward the report at some future time, and it is not my intention to-night to argue the point as to whether the Association as a body should or should not take action in the matter, but I hope you will allow me to express my own view *en passant*, which is, that it should not, for it seems to me to be a matter that should be left in the hands of individual members to uphold the honour and dignity of their profession. I purpose, therefore, confining my few remarks to the broad question of the competition system. Gentlemen, I am afraid you will give me the credit of being a radical, whereas I am a conservative of the darkest blue. I have already said that our present system of making or trying to make an architect of a young man by binding him for a number of years before his capabilities have been tested is the bane of the architectural profession; and now, again, I am bold to assert that the system of open competitions, as managed (or rather I would say, *mis*managed) at the present day is also a bane, not only to the profession, but also to the art of architecture. Let us for a few moments turn our attention to the arguments generally used in favour of the system. It is said by some to be a means whereby a talented young man may attain a position which want of influential friends would otherwise prevent his reaching. This sounds all right, but is such practically the case? Are not the promoters of these open competitions in the majority of cases unable to grasp the advantages of a well-considered plan over the disadvantages of another which a professional eye would at once detect? Then, again, with regard to the architectural design of the building: is it not the experience of most of us that vulgarity rather than refinement wins the day? Do not the glaringly-coloured perspectives, with a crowd of pedestrians and equestrians in coats and trousers of many colours hurrying to and fro, but, of course, shown in the act of admiring the building,—which at present exists only on paper,—do not these, I repeat, win the day, and not those of our talented young men, who finish their perspective drawings, it may be, in pen-and-ink, it may be in light Indian ink or sepia, or it may be in a refined and delicate use of water-colours? The best designs are not, as a rule, selected, and the talented young man is doomed to disappointment. And so disappointment succeeds disappointment, which must have a bad effect upon the mind of the young architect. Let him have patience, and he will be sought after without having to go through the throes of a competition. Let him be thoroughly in earnest in his work; let him make the most of his time during his term of pupilage; let him act for a few years as an assistant, and then let him take an engagement for three days a week, which will admit of his making and keeping appointments, and I believe that work will come sooner or later, and that he will be able to attain a position without joining in competitions, and he will feel a pride in his having attained to that position not through influential friends, although they are most valuable, but simply through his own earnestness, his patience, and his loving devotion to his art. Another argument in favour of the competition system is that for public works it is calculated to ensure an erection more perfect for its purpose than the ordinary course would be likely to do. I for one am not at all prepared to accept this argument, for I believe that an architect would take a much greater interest in his work if he felt that he was entrusted with a public building without competition, not only in consequence of the confidence which is placed in him, but also because he would remember that his reputation and future success were at stake, and I am convinced he would do his best to merit his country's approval. Let his plans be submitted to a consulting architect, or to the Council of the Institute if thought necessary by the Government or other public body which employs him, and I doubt not but that the architect would gladly make such modifications in his design, based upon the suggestions of the referees, as would thoroughly satisfy his clients before the works were commenced. Again, I believe it is far better to work out a scheme calmly and quietly, and without hurry, rather than under the high-pressure system and bustle of a competition. So much for the arguments in favour of the system. And now let us glance at the arguments against the system of open competitions. The competitor embarks in ignorance, not knowing fully the requirements of the promoter, his preference (if any) for style, or the building materials of the neighbourhood at his disposal, and their prices. The competitor may spend many long and tedious hours over the conception of some wonderful dream of the Queen Anne period, and when the designs are submitted, he learns that this is the only style which is distasteful to the promoter. Again, it is said by others that the system itself, unless based upon a somewhat Utopian ideal, necessitates a vast expenditure of time and trouble, not to say skill, by a number of persons, all of whom cannot possibly receive any adequate return. In support of this argument, let us take a by no means exaggerated example of the ordinary competition advertisements of the present day. "To Architects and Others." Designs are invited for such and such a building in such and such a town, and these are the conditions: the site being at the corner of a street, two elevations are required, plans of five floors, two sections, block plan of site showing drainage, &c., and a perspective view,—which, if the competitor chooses, he may take an extra day or two over by finishing it in pen and ink instead of colour. Premiums of 30*l.*, 20*l.*, and 10*l.* respectively will be given for the three selected designs, which will become the property of the promoters, who do not bind themselves to employ the architect whose design may be considered best, but, in the event of their doing so, the premium will merge in the commission! Let us analyse what this bait of premiums really means. It means that at least thirty competitors would be beguiled, and that therefore twenty-seven of them would receive no remuneration whatever, the other three competitors receiving 60*l.*, or an average of 20*l.* each. We may assume that each set of drawings, including working out the preliminary sketches, would take one man at least thirty days: consequently his remuneration would be 13*s.* 4*d.* per day. This, I think, clearly shows that even the successful competitors would be out of pocket. And yet this is by no means an uncommon example of the indignity so frequently offered to architects. Let us look at the same example in another light. We saw that eleven drawings were required, and that there were thirty competitors: consequently there were 330 drawings submitted. We will assume that these 330 drawings would take one man at least two years to complete. What would be his remuneration? Thirty pounds a year, without board and lodging! Now really, gentlemen, are you going to be so dishonest to yourselves as to assist in supporting such a system? Are you going on wasting your time, your talent, and your energies on drawings, however well thought out, however artistic they may be, which will eventually be consigned to the lumber-room? Are you going to cast your pearls before those who cannot appreciate them? No; I am sure all who hear me to-night will not put forth a hand to advance such a scandal to the profession, but will rather do all in their power to check it. It has been remarked that the fact that such a system is not a good one is recognised by its not being adopted or even suggested in any other profession. It has been tried and failed notably in those most allied to architecture, viz., sculpture and painting, and this notwithstanding the fact that the sketches or models of the painter or sculptor have an intrinsic value of their own, whereas those of the architect have practically none. I have endeavoured to prove to you, in commonplace and feeble language, but which I hope will be not the less convincing, that the present system of open competitions is bad for art, bad for the public, and bad for the architect. If, however, it is found in some cases that competition must be resorted to, it should be on the principle of submitting preliminary pencil sketches, and a selection of competitors made on the merits of such sketches to prepare a second set, to be finished drawings, each of whom should receive an honorarium towards defraying his expenses. It is simply preposterous to expect a man to work for nothing, and it should be considered below professional dignity to enter upon a competition without such recognition of services rendered; and no competition whatever should be entered upon except under proper precautions and a guarantee for a fair adjudication.

ENGINEERING IN SCOTLAND.

At the meeting of the Institution of Engineers and Shipbuilders in Scotland, on the 30th ult., an introductory address was read by Mr. R. Bruce Bell, president. At the commencement of it Mr. Bell said,—

This Institution, being composed of all classes of engineers and shipbuilders, holds an exceptional position, and has in its grasp a much greater range of objects to deal with than most other similar societies, and owing to the great advancement which has been made since 1857 in the industries connected with all the different professions into which the Institution is divided, a thorough review of these subjects would be a more tedious matter than I am prepared to inflict upon you, and I shall therefore deal very shortly with them, taking a brief notice of the progress of these various branches, and then considering to what extent we, as a society, have been maintaining our ground with the progress of the age.

In civil engineering, many great works have been carried out; railways have stretched their lines over the world; docks and harbours have been multiplied, constructed of much greater depth and area than those of former years; extensive operations have been carried out in sewage and water works; telegraphs have been carried through the air and under the ocean round the whole earth, and although we can hardly say that an entirely new branch has been added to what existed formerly, yet some considerable changes have been made in the modes

of construction of these various works. In the construction of bridges, malleable iron has been been made use of to a much greater extent and in a much more economical manner than formerly. We have also in the foundations of bridges in bad ground, and in the soft beds of rivers, superseded much of the old system of cofferdamming and piling, in some cases by sinking hollow cylinders either of iron, brick, or concrete, and filling them with concrete or other material; but in this process we have only copied what has been practised by the natives of India for many hundred years. The English engineers who carried out the railway system in India adopted this plan in cases where the soft deposits of the great rivers of the country were found to be of interminable depths, and afterwards introduced it into this country, where it has been very extensively used. Three instances of its adoption on the Clyde on a large scale, with cylinders sunk from 70 ft. to 90 ft. into the ground, are in the foundation of the Union Railway Bridge, commenced in 1865; the Albert Bridge, commenced in 1870; and the Caledonian Railway Bridge, at present in progress. These are all built with iron cylinders filled up with concrete.

The application of this system to the construction of the foundations of quays and wharfs was suggested in the year 1869, in a paper read by Mr. Imrie Bell upon the Jumna Bridge, describing the continuous cylinder foundation used in the abutments, and it has since been designed and carried into actual practice by Mr. Milroy, in the construction of river quays on the Thames, with iron cylinders, and on the Clyde with brick cylinders, and on a very large scale is now being applied in concrete to interior dock walls in the Queen's Basin at Stobcross, on the Clyde. I am very much inclined to think, however, that in this latter case, or in any similar application of the system when the work is actually within dry land, where the ground could be dug out and a solid wall built in the open air, it is altogether a misapplication of the system, costing much more money and sacrificing time, strength, and solidity without any tangible object.

The success in sinking these cylinders on the Clyde to such great depths is mainly due to the digger, the ingenious invention of Mr. Milroy, which has been used in all these works. Various other plans have been tried—continuous bucket dredgers, sand syphons, &c., none of which have as yet turned out so successful as the digger.

Another system which has been used in many large bridge foundations, the latest example of which is Mr. Bouch's gigantic work, the Tay Bridge, is that of the compressed-air chamber, by which an air-tight chamber, covering the entire pier, is sunk down to the required depth, and the pier built within it. In the great swing bridge over the Tyne at Newcastle, built by Mr. John F. Ure, this system was applied to the cylinders themselves, which, after being sunk, were built in with masonry.

Concrete has of late years come much more extensively into use in engineering works, especially in the construction of sea-walls and breakwaters, where artificial blocks of stone up to 300 and 400 tons weight have been lifted and set in place by powerful barges and machinery.

In respect to the working appliances used in engineering construction, machinery now plays an important part, and much has been effected in the improvement of pumps, cranes, and portable engines and dredging machines; and the rock drill and the steam navvy are now effecting the speedier completion of rock and earth excavation.

Two of the most remarkable works of dredging have been executed during our existence as a society. The one is the Suez Canal, and the other the removal of the bar and deepening of the river Tyne, from the sea to a distance of several miles above Newcastle, either of which works, in point of magnitude of the quantity of material removed, exceeds what has been done even upon our own river.

In mining engineering there has been little change except the introduction of machinery in "getting" coal. Mechanical ventilation has in some cases superseded the old methods of ventilation by furnace; this, however, as far as Scotland is concerned, has not been carried out very extensively.

As regards mechanical engineering we have no doubt arrived at greater precision of workmanship in the manufacture of locomotives and land engines, but have not made any great change in the character of the machines themselves. But in marine engineering, the compound engine has completely altered the position of matters afloat, as regards consumption of coal; and great improvements have been made in the forms and construction of the engines and boilers. But in all these branches a great change has been gradually working its way in the system of the workmanship itself, as almost every portion of the preparatory stages is now effected by machinery in place of by manipulation with hand tools.

Before the year 1850, with the exception of the self-acting lathe, the horizontal planing-machine, the common vertical boring-machine, and the simple slotting-machine, there were hardly any machines in the engineer's shop,—the work was nearly all done by hand labour, with the chisel and file; and in the smiths' shop the heavy heats were still managed by swarms of forehammer men clanking round the anvil.

The great stimulus which was given to all manufactures by the Great Exhibition of 1851, which effected so many rapid changes in our social arrangements, helping forward a change also in the workshop, which has year by year progressed until now almost everything is done by the machine; and the erection of a large marine engine may be compared to the building of Solomon's temple, there being neither sound of hammer nor file, and the workshop seems almost a gigantic watch-maker's establishment, where the fitters have only to take up the various pieces as they come from the machine and put them together; and to pursue this further back, the very machines which do this work are themselves made by other machines, and so on backwards, until we appear to lose ourselves in the attempt to reach back to the first hand-made machine. In the place of the dingy, smoky blacksmith's shop, we have now the tidy forge without coal, smoke, or ashes, with clean floors and brilliant furnaces, coal and manual labour being replaced by gas and steam hammers, cresses, and dies.

In shipbuilding we have during the same period made a great revolution; timber as a material in shipbuilding, both for the navy and the mercantile marine being now almost a thing of the past. We have not yet, however, progressed far in the direction of supplanting manual workmanship in the construction of the hulls of vessels, as the noisy clink of rivet-hammers still reverberates through the yards and maintains its ceaseless din. But even this stronghold of manual labour is at last threatened, and Mr. M'Millan has now a machine at work at Dumbarton riveting upon the ship's side.

In war-ships during that period great changes have been made, and the duel between the gun and the armour, whatever may be the final result, has no doubt been the means of advancing the art of metal-working in an immense degree, and increasing the power and precision of artillery to an extent which, a few years since, would have almost been thought fabulous. Who could have imagined thirty years ago that guns of 100 tons, throwing shot of a ton weight, would be carried on board ship, or that ships would be made strong enough by armour-plates to receive and resist missiles of this weight, discharged with such enormous force from these massive engines of war? But the curious question now comes to be, after all this expenditure of money and brains in producing such gigantic floating monsters, provided with these enormous engines of destruction, *cui bono?* For after all this immense expenditure of money upon systems of offence and defence, we find that notwithstanding such costly precautions, the ships, like Achilles, are still vulnerable in the heel, and that a midge of a boat with half a dozen men on board and a few tons of explosives, can, in the course of a few minutes, send ship, armour, and ordnance to the bottom; and it is curious to note that after having done all we can to bring to perfection the invincibility of the ships to shot and shell above water, our whole energies are now concentrated upon making machines to destroy them from below, and to render useless all that has been done for the last twenty years at such vast expense.

Monumental.—A memorial has lately been erected by the Right Hon. Hugh C. E. Childers, M.P., at Norton, near Worcester, in memory of the late Mrs. Childers. It consists mainly of a colossal Latin cross, raised upon a suitable base. The work has been designed and executed by Mr. E. J. Physick, sculptor.

BUILDERS' BENEVOLENT INSTITUTION.

ANNIVERSARY DINNER.

The thirtieth anniversary festival in connexion with the Builders' Benevolent Institution was held on the 8th inst. at Willis's Rooms, St. James's, the President, Mr. William Higgs, in the chair, supported by upwards of three hundred subscribers and friends of the Institution,—a larger number than on previous occasions.

The Chairman, in proposing the toast of the evening, "Prosperity to the Builders' Benevolent Institution," said he must congratulate all concerned on the continued progress of the Institution, which had now been in existence thirty years. During that time they had spent upwards of 20,000*l.* in payment of annuities to pensioners, and the funded capital of the charity had now reached the like noble sum of 20,000*l.* Now that this point had been attained, many important alterations had been made in the rules of the Institution during the past year. It had been decided to spend all future donations, as well as subscriptions, in furtherence of the objects of the Institution, instead of funding them as heretofore. Legacies would continue to be funded, as hitherto, and perhaps some of those present might remember the Institution when making their wills, but he should recommend them to aid the Institution while alive to see the good that could be done by their help. It had been agreed to increase the amount of the pensions to 30*l.* instead of 24*l.* for the men, and to 24*l.* instead of 20*l.* for the women. It had also been decided that on the death of a male pensioner, his widow should have a man's pension. Under the former arrangement, it must have been a very great hardship for the widow of a pensioner to find herself not only bereft of her husband, but penniless in the world. This was a change, then, that would commend itself to the approval of the supporters of the Institution. A pleasing incident in the report was that one who was until recently a pensioner on the funds of the Institution had been able, through altered circumstances, to withdraw from receiving her pension, and to present the Institution with a donation of five guineas as a token of gratitude. During the time the Institution had been in existence great good had been done to members of the trade who, in the decline of life were unable to help themselves owing to misfortune. One hundred and two pensioners had received the charity of the Institution to the amount already named, and had died at a good old age, averaging about 77 years. Three candidates were proposed for the next ensuing election, one man and two women, of whom the committee had at first only proposed to elect one man and one woman. But which of the two females to reject it was difficult to choose. Both were widows of gentlemen at one time in good circumstances, and subscribers to the Institution. One was the widow of an old friend of his, Mr. Ebbs, of Aberdeen-place, Maida-hill, who was a subscriber to the Institution from its commencement, and continued to be a subscriber for something like twenty-four years. He (the chairman) had persuaded the committee to elect all three candidates, and they had consented, provided the donations and subscriptions obtained that evening amounted to 500*l.* He would, therefore, strongly urge all present to do their utmost, so that the two widows should not be placed in competition, and one of them rejected. He was willing to do his part in the matter, and in commending the toast to their notice he would only say, that "there is that scattereth and yet increaseth, and there is that withholdeth more than is meet, but it tendeth to poverty." The toast was drunk with all the honours.

A little later on in the evening the lists of subscriptions and donations were read by the secretary, Major Brutton. The total amount obtained was rather more than 600*l.* The president's list amounted to 290*l.* 17*s.*, including his own handsome donation of 105*l.*

Mr. Robinson, in proposing the health of the chairman, said he was sure that the toast would be enthusiastically received. The very great success which had been announced was due not only to the exertions made by the president, but to his high personal character. Mr. Higgs had for many years occupied a proud position in the building world, and not in the building world alone. Wherever anything was to be done for promoting goodwill among mankind, or for the advancement of any good institution, he was always to be found taking a prominent part. He had in years gone past done much to benefit the Builders' Benevolent Institution, and now he had come forward to give it the advantage of his

superintendence as president, with what success had already been seen. After a long and honourable career, Mr. Higgs was about to retire from active participation in business, and he (Mr. Robinson) was quite sure all would join him in saying that Mr. Higgs would carry into the retirement of private life the satisfaction of a well-spent life. He would take with him the recollection of having done much to further the welfare of the building trade and of the Builders' Benevolent Institution.

The toast was enthusiastically received, and

The Chairman, in reply, said he could assure his friends that it was always his pleasure to do what he could to assist others, and he was glad that he was able and willing to do it.

Mr. James Doulton, in proposing "The Vice-Presidents and Trustees," congratulated the company on the way in which they had responded to the chairman's appeal. The vice-presidents had rendered great services to the Institution, and the trustees were responsible for the due care and administration of its funds. Their duties had always been efficiently and satisfactorily performed, and therefore he had great pleasure in proposing the toast, coupled with the name of Mr. James Freeman.

Mr. Freeman briefly responded.

Mr. James Stiff proposed the health of the treasurer, Mr. George Plucknett, who fulfilled very important duties in connexion with the society. That those duties were efficiently discharged proof was afforded in the fact that the treasurer had been unanimously re-elected year after year for many years past. The office was not a paid one; the work was performed voluntarily, although it required a great deal of time and attention, and they were paying the treasurer no idle compliment in saying that they thanked him sincerely for his labours in connexion with the Institution.

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Experiments were made a few days later on a more extended sphere of operations. Although the apparatus used had been designed only for limited distances, it was found that its effectiveness had been greatly underrated. Speaking experiments were first carried on through the underground cable connecting the General Post-office in Berlin with Schöneberg, next Potsdam, and, finally, Brandenburg, a distance of thirty-eight English miles. The success was here also complete. Words spoken in an undertone at one end did not only arrive at the other with perfect clearness, but the person speaking was at once recognised by the sound and peculiarity of his voice. It remains to be seen whether such a result can be obtained also when the overground telegraph is used. At any rate, the apparatus which was placed at the disposal of the Berlin postal authorities by the delegate of the English General Post Office staying in the German capital has satisfied the experts of Berlin.

As was to be expected, the German authorities have not been long in making practical use of the valuable invention. Since the 5th November, the first telephone has been in operation between the room of the German Postmaster-General in the Leipziger Strasse and that of the Director of the Berlin General Telegraph Office in the Französische Strasse. The verbal intercourse thus established between the two offices is both satisfactory and constant. The Postmaster-General talks into the instrument on his table, gives verbal orders and asks questions, and receives verbal reports and answers from the Director of Telegraphs, on whose table the other telephone is placed. The conversation is carried on without a hitch, as if the two gentlemen were sitting side by side. It may be left to the official mind to imagine what valuable saving of time and stationery is thereby effected.

THE FUTURE POST-OFFICE AND THE EMBANKMENT.

With respect to the statement so authoritatively made by some of our contemporaries that the site of the new Post-office was settled to be on the Embankment,—by one with such circumstantiality that the very style of the building that should be erected was freely discussed,—we can but say that any such story must have been built on but little, or, rather, no foundation. It is true the site mentioned has been acquired by the City authorities, but only quite lately; and we do not think we are betraying confidence when we say the price paid for the eight acres of land was 300,000*l.*, but no preliminary *pour parlers* even as to its reconveyance have yet been suggested by those who are, or would be, interested in either its sale or its purchase.

THE ARTISTS' RIFLE VOLUNTEER CORPS.

On Tuesday, the 6th inst., the members of the C company of the Artists' Rifle Volunteer Corps celebrated the tenth anniversary of its formation from among the members of the Architectural Association by a dinner at the Holborn Restaurant. The chair was occupied by Captain Ridge.

Colonel Leighton, R.A.; Major Edis, F.S.A.; Captain Paice (the president of the Association), and other representatives of the battalion, were the guests of the officers and men of the C company on the occasion. Captain Florence, of the 40th Middlesex, and many others who had formerly served in the ranks of the C company, were also present.

Colonel Leighton was called on to return

thanks for the toast of the "Army, Navy, and Auxiliary Forces," and in doing so he gradually led up to the announcement that he had been requested by the noncommissioned officers and men of the company to present an elegantly-adorned sword to Captain Ridge, in acknowledgment of the zeal shown by him in connexion with the company since its formation. The chairman, who was altogether unprepared for this episode in the entertainment, in a few hearty words, returned his thanks for the honour bestowed on him.

Major Edis, the original promoter of the architectural companies, proposed "Success to C Company of the Artists," and while he likened the miserable weather of that evening to that of the corresponding evening ten years ago, when the first members of the company were enrolled, he contrasted the then existing state of the Artists' Corps with its present largely increased numbers and efficiency. The C company has, as the result of the work of its tenth year, an effective roll of exactly 100 men, of whom no less a percentage than ninety-eight are efficient.

Simultaneously with the success of the C company, Captain Paice's Architectural Company has very largely increased during the past volunteer year.

SOCIETY OF ARTS.

THE following arrangements for the Wednesday evening meetings previously to Christmas have already been made:—

Nov. 21.—Address by Deputy-Chairman of the Council, Mr. W. Hawes, F.G.S.

Nov. 28.—"The Telephone," by Professor Graham Bell.

Dec. 5.—"The Weak Points of the Elementary Education Code, with Suggestions for its Revision," by the Rev. E. F. M. MacCarthy. Sir Charles Reed, chairman of the London School Board, will preside.

Dec. 12.—"Freedom in the Growth and Sale of the Crops of the Farm, considered in its Bearings upon the Interest of Landowners and Tenant Farmers," by Mr. J. B. Lawes, F.R.S.

Dec. 19.—"State Aid to Musical Education, at Home and Abroad," by Mr. Alan S. Cole.

The Cantor Lectures,—Monday evenings:—

First course, on "The Manufacture of Paper." Six lectures by Mr. William Arnot, F.C.S.

Second course, on "The Application of Photography to the Production of Printing Surfaces and Pictures in Pigment," by Mr. Thomas Bolas, F.C.S; and

Third course, on "Some Researches on Putrefactive Changes, and their Results in relation to the Preservation of Animal Substances," by Dr. B. W. Richardson, F.R.S.

A course of three lectures on "Explosions in Coal Mines," will be delivered by Mr. T. Wills, F.C.S., in January and February.

PROPOSED NATIONAL TESTIMONIAL TO MR. ALLPORT.

POLICY OF THE MIDLAND RAILWAY COMPANY.

SIR,—The renewal in your columns of the advocacy of a public testimonial to the manager of the Midland Railway, Mr. Allport, raises a very important question. The *Builder* will do no small service to the commercial and industrial world if it throws such light on this question as shall lead to its satisfactory solution.

It must be admitted that there is a considerable difference between a public testimonial, to which the public are invited to subscribe, and one of those private felicitations which come within the limits of personal friendship. As to the latter, the public writer has nothing to say, unless it may be to express congratulation at any instance of private worth being brought to light, or at feelings of good fellowship gracefully made tangible.

As to the former, the case is altogether different. A public testimonial, from the days when Demosthenes strove for the crown down to our own, means much more than a general tribute to private worth. It partakes of the nature of what our foreign neighbours have taught us to call a demonstration. It must be founded on public service. If the nature of that public service be questionable, the onus lies on the proposers of the testimonial to show that the question has been decided in favour of the claim.

We had an example, which ought to be an instructive one, of the neglect of this wise distinction in the testimonial presented to Mr. Hudson. At the time when that gentleman held a position almost without precedent (unless it was in the yet more famous case of Law, and the excitement of the South Sea Bubble), it was proposed to show him public honour for having done so well for himself and for his friends. Some of us can remember the kind of arguments which was urged in order to procure subscriptions. Nor was the motive, in that case, far to seek. Whether the eager desire to appear on the list of subscribers so long as Mr. Hudson was believed to have the power to turn all that he touched to gold, or the savage reaction, when that power had vanished, by which the former flatterers took vengeance on the object of their caprice, was most disgraceful to the country, may be doubted. At all events, the lesson remains a very striking one. It should be maturely pondered by all those who promote public testimonials, or, at all events, by all those whose motive in so doing is more public-spirited than a mere desire to secure a "commission" on the subscriptions obtained.

In the present case, I have not a word to say either against the virtues which may adorn the private life of the gentleman to whom it is proposed to do honour, or in depreciation of the vigour and energy which he has devoted, for so many years, to the service of the Midland Railway. And if the shareholders of that railway, unsolicited, are disposed to show their appreciation of these qualities, the fact will be one calculated to encourage many a hard-worked, thoughtful, and deserving man.

But it is another thing if, as your correspondent states, copies of a letter from an anonymous individual being sent round to the London and provincial press, and paragraphs having been duly distributed, a local mayor is induced to propose a national testimonial and address. In order, in any way, to justify an appeal of this nature, it is necessary to show that the policy inaugurated by the Midland Railway, under the influence of Mr. Allport, is sound and wise. Nor is that a trifling question. If the policy be the true one, and as such affords a just claim for a national testimonial towards its author, it ought to become general. In fact, if the Midland theory be true, that of other lines, the directors of which decline to follow this policy, must be false. The presentation of such a testimonial, then, is an expression of opinion on the part of the subscribers that the main outlines of the Midland policy ought to be adopted by other companies. I am not either asserting or denying that such may be the case, but I must urge that it is essential for the promoters of the testimonial to prove that it is actually the case.

The Midland Railway is a truly colossal undertaking. Its paid-up stock and share capital, at the end of 1876, was 45,723,351*l.*; its loan and debenture capital was 13,683*l.*; and it had subscribed 4,679,812*l.* to other companies. Its revenue for that year reached the large figure of 6,245,218*l.*, or 10¼ per cent. on its capital. But we must regard, if we wish not to be dazzled, not so much the actual condition, as the progress and movement of the line, if we wish to form an impartial estimate of the policy which has piled up such a vast capital. The length of the Midland lines, which at the end of 1871 was 989 miles, was increased, by the end of 1875, to 1,139 miles. But the cost per mile, which was 42,161*l.* on the smaller distance, had risen to 47,804*l.* on the larger. The gross receipts at the same time had risen from 4,580*l.* to 5,211*l.* per mile per annum. Viewed in this light it may be said that the great increase of capital had produced a more than equivalent increase of business. So, in a sense, it has. But if we look to the net income per mile, which is the test to prove the wisdom of the policy adopted, we find that so far from having been increased by this great increase of capital, business, and consequent cost and danger, it has actually diminished. In 1871 it was 2,491*l.* per mile, in 1875 it had fallen to 2,416*l.* per mile. In consequence, the proportion of net receipts to capital, which in 1871 was 6·08 per cent., had fallen, in 1875, to 5·16 per cent. So that, in point of fact, the depreciation in the value of the Midland stock, during the four years in question, has been 15 per cent. The gross capital of the line has been raised from 41,696,999*l.* in 1871 to 54,449,216*l.* in 1875. That is to say, the shareholders have put their hands in their pockets for 13,752,217*l.* But the depreciation of earning from 6·08 to 5·16 per cent. is equivalent to a loss of more than eight millions sterling, so that the net movement of the four years has resulted in a subscription of thirteen millions and a loss of eight. If we take the figures up to the end of 1876, they will be still more instructive; but I confine myself to published authorities to prevent any risk of error.

Now, sir, no one can be more convinced than I am, that cheap fares are desirable for all parties. They increase the business of the railways, and they facilitate the general business of the country. But in order to do this permanently and efficiently they must not diminish the profits of the companies. If they do this it shows that there is some error,—some screw loose. The English companies have not yet made any approach towards the low fares of the Indian lines. The tariff for the third-class passengers is pretty much the same throughout the kingdom. As to giving facilities for the third-class traffic, it is now everywhere the rule, instead of being, as formerly, the exception. What the proprietors of railways, therefore, have to look forward to is the increase of their net profit by such an increase of traffic as pays. It is positive loss to induce gross traffic, unless there be a corresponding increase of net traffic. On the Midland this positive loss has occurred. Capital per mile has been increased 13·5 per cent., gross traffic has increased in a somewhat larger proportion. Net traffic has declined. This does not come before the world as a satisfactory result of a model policy.

Your correspondent, "Gratitude," may perhaps be able, in some way which I cannot anticipate, to show that a policy which has reduced a net earning of over six per cent. to one of under five per cent. in five years is a good policy. If he can do so, he has a good basis for claiming a national testimonial for the author of the policy. And, at the same time, such a testimonial will be a significant hint to the directors of other lines to change their hands.

But if the proposers of a national testimonial cannot do this,—not as matter of vague sentiment, but as matter of practical businesslike common-sense, they are bound, and all who stir in the matter are bound, to confine their claims to those of mere personal good feeling. For a national testimonial to be given in honour of a policy which has reduced the net earnings of a line from six to five per cent. is, as it appears at present, something like a contradiction in terms.

B. B. R.

UNSANITARY "MODEL" BUILDINGS AT PECKHAM.

THE Camberwell Vestry have induced the Metropolitan Board of Works to take action in respect of certain new model lodging-houses which are now in course of erection by Mr. W. Nunn, a builder, in Choumert-road, Peckham. At the meeting of the Metropolitan Board last week, a letter was read from the Vestry of Camberwell, drawing the attention of the Board to these houses, which it was stated were defective in construction, especially as to their want of sanitary appliances, and requesting that an officer of the Board might be instructed to examine the buildings and report thereon, the Vestry being of opinion that it was not desirable that the buildings should be allowed to proceed towards completion if any steps could be taken to stop their further progress. Mr. Dresser Rogers, in supporting the request contained in the Vestry's letter, said that this was a most important question, affecting the metropolis at large. At the present time the Board were taking steps, at considerable expense and trouble, under the orders of the Artisans' Building Acts, to pull down old buildings in the metropolis, and replace them with others of improved construction. The Vestry of Camberwell, being aware of that fact, spoke very strongly on this matter, because they felt strongly upon it. It would be found that whilst many houses were being pulled down, they were being replaced by houses of a far worse description than those originally existing. In the present instance the sanitary arrangements of the houses erected in Peckham were exceedingly defective. Unless the Board stepped in to put a stop to this style of building they would find that all over London the rookeries which had been condemned would again arise, to the great detriment of public health. He moved that the matter should be referred to the solicitor. Mr. Selway, in seconding the motion, suggested that the district surveyor, who appeared to be implicated in the matter, should be requested to attend before the Works Committee to explain the matter. The proposal was adopted, and the alleged defective character of these buildings will now be fully inquired into.

CERTIFICATES.

SIR,—I am much pleased with your answer to an over-clever correspondent. It is quite time that a little more practical common sense was introduced into sanitary matters, and less theoretical (so-called) nonsense published. What a strange thing it is that we have not a reliable society within reach of the practical mechanic, where the architect, doctor, plumber, and all interested in sanitary matters could meet and hold discussions, and where certificates of competence could be given. When you see the great variety of fever-traps, called water-closets, and the absurdities of the new water-companies' regulations, &c., it should be a matter of surprise that there is not more sickness. You little know, sir, the great boon you would confer on society at large if you could, by the aid of your paper, promote a society of this description, in whose certificates the public would have confidence.

C. W. T.

MANCHESTER BATHS COMPETITION.

MR. J. G. LYNDE, the Manchester city surveyor, is good enough to inform us that the following is the result of the competition designs for baths and washhouses for this city. Thirty-one sets of plans were sent in, out of which three bearing the following mottoes have been selected for premiums by the committee, and approved this day by the council. For the first premium of 200*l.*, the design bearing the motto "Economy well considered," by Mr. J. Johnson, of Queen Victoria-street, London; for the second premium of 100*l.*, the design bearing the motto "Experience," by Messrs. Mangnall & Littlewood, of Brown-street, Manchester; for the third premium, of 50*l.*, the design bearing the motto "Concilio et Labore," by Mr. J. Lowe, of Mansfield-chambers, St. Ann's-square, Manchester.

The designs have been open for exhibition to the public at the Town-hall during the whole of the week.

THE MASONS' STRIKE IN LONDON.

THE masons' strike still continues. On Saturday last the Masons' Strike Committee had a busy day, as the strike pay of 18*s.* per man had to be paid to about 700 men who were on the strike roll, and although a large number of these receive their pay at their own lodges, a very considerable number, including such foreigners as now remain on the roll, receive their money at the committee-rooms. The amount paid in this way to the men on strike was about 630*l.* The expense of sending away the Canadians, Italians, and Germans in the earlier part of the week, brought the week's disbursements up to about 900*l.* On the other hand, the receipts from the country have been about 100*l.*, and this, with the regular levies, swelled the total income of the week to about 1,000*l.*, so that the balance in hand considerably exceeded that at the end of the previous week, being over 400*l.* The masters have issued the following notice:—

"The Central Association of Master Builders of London, No. 3, Westminster-chambers, Victoria-street, S.W., to the American and Canadian masons and stonecutters lately arrived.—Notice is hereby given to any of the above who have not commenced work under their contracts that

superintendence as president, with what success had already been seen. After a long and honourable career, Mr. Higgs was about to retire from active participation in business, and he (Mr. Robinson) was quite sure all would join him in saying that Mr. Higgs would carry into the retirement of private life the satisfaction of a well-spent life. He would take with him the recollection of having done much to further the welfare of the building trade and of the Builders' Benevolent Institution.

The toast was enthusiastically received, and

The Chairman, in reply, said he could assure his friends that it was always his pleasure to do what he could to assist others, and he was glad that he was able and willing to do it.

Mr. James Doulton, in proposing "The Vice-Presidents and Trustees," congratulated the company on the way in which they had responded to the chairman's appeal. The vice-presidents had rendered great services to the Institution, and the trustees were responsible for the due care and administration of its funds. Their duties had always been efficiently and satisfactorily performed, and therefore he had great pleasure in proposing the toast, coupled with the name of Mr. James Freeman.

Mr. Freeman briefly responded.

Mr. James Stiff proposed the health of the treasurer, Mr. George Plucknett, who fulfilled very important duties in connexion with the society. That those duties were efficiently discharged proof was afforded in the fact that the treasurer had been unanimously re-elected year after year for many years past. The office was not a paid one; the work was performed voluntarily, although it required a great deal of time and attention, and they were paying the treasurer no idle compliment in saying that they thanked him sincerely for his labours in connexion with the Institution.

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THE TELEPHONE.

According to the *Deutsche Verkehrs-Zeitung*, experiments have recently been carried on at Berlin with the telephone of Professor A. Graham Bell, of Boston, the trials having been attended by "surprisingly favourable success." The experiments for verbal intercourse by means of the telephone were made between the Berlin General Post-office and the Central Telegraph Station, and they are said to have been of an exceedingly interesting nature. They took place, at first, in the Berlin Central Telegraph Office, in the Französische Strasse. The connecting wire was laid for a distance of about a hundred yards through several rooms, and the experiments begun with closed doors, so as to prevent even the possibility of a transmission of waves of sound from one end of the conduit to the other without the aid of the telephone. It soon appeared that not only single words, but protracted sentences, were perfectly and easily understood by both sides when the telephone was applied. Indeed, even modulations of the voice were distinctly perceptible, the peculiarities of voice of each individual person speaking being also clearly recognised. The first trial having thus proved so eminently successful, it was resolved to at once increase the distance, and to carry on a conversation by the aid of the two telephones through the underground cable connecting the Central Telegraph Station and the General Post-office, a distance of about one mile and a quarter English. The latter experiments were also successful. The words spoken were easily understood, the rising and sinking of the voice, as well as the peculiarities of individual persons, were plainly discernible. Musical notes were also distinctly heard. Of the songs tried, tune as well as words were audible to every ear. Even the *piano* of a violin was perceived.

Experiments were made a few days later on a more extended sphere of operations. Although the apparatus used had been designed only for limited distances, it was found that its effectiveness had been greatly underrated. Speaking experiments were first carried on through the underground cable connecting the General Post-office in Berlin with Schöneberg, next Potsdam, and, finally, Brandenburg, a distance of thirty-eight English miles. The success was here also complete. Words spoken in an undertone at one end did not only arrive at the other with perfect clearness, but the person speaking was at once recognised by the sound and peculiarity of his voice. It remains to be seen whether such a result can be obtained also when the overground telegraph is used. At any rate, the apparatus which was placed at the disposal of the Berlin postal authorities by the delegate of the English General Post Office staying in the German capital has satisfied the experts of Berlin.

As was to be expected, the German authorities have not been long in making practical use of the valuable invention. Since the 5th November, the first telephone has been in operation between the room of the German Postmaster-General in the Leipziger Strasse and that of the Director of the Berlin General Telegraph Office in the Französische Strasse. The verbal intercourse thus established between the two offices is both satisfactory and constant. The Postmaster-General talks into the instrument on his table, gives verbal orders and asks questions, and receives verbal reports and answers from the Director of Telegraphs, on whose table the other telephone is placed. The conversation is carried on without a hitch, as if the two gentlemen were sitting side by side. It may be left to the official mind to imagine what valuable saving of time and stationery is thereby effected.

THE FUTURE POST-OFFICE AND THE EMBANKMENT.

With respect to the statement so authoritatively made by some of our contemporaries that the site of the new Post-office was settled to be on the Embankment,—by one with such circumstantiality that the very style of the building that should be erected was freely discussed,—we can but say that any such story must have been built on but little, or, rather, no foundation. It is true the site mentioned has been acquired by the City authorities, but only quite lately; and we do not think we are betraying confidence when we say the price paid for the eight acres of land was 300,000*l.*, but no preliminary *pour parlers* even as to its reconveyance have yet been suggested by those who are, or would be, interested in either its sale or its purchase.

THE ARTISTS' RIFLE VOLUNTEER CORPS.

On Tuesday, the 6th inst., the members of the C company of the Artists' Rifle Volunteer Corps celebrated the tenth anniversary of its formation from among the members of the Architectural Association by a dinner at the Holborn Restaurant. The chair was occupied by Captain Ridge.

Colonel Leighton, R.A.; Major Edis, F.S.A.; Captain Paice (the president of the Association), and other representatives of the battalion, were the guests of the officers and men of the C company on the occasion. Captain Florence, of the 40th Middlesex, and many others who had formerly served in the ranks of the C company, were also present.

Colonel Leighton was called on to return

thanks for the toast of the "Army, Navy, and Auxiliary Forces," and in doing so he gradually led up to the announcement that he had been requested by the noncommissioned officers and men of the company to present an elegantly-adorned sword to Captain Ridge, in acknowledgment of the zeal shown by him in connexion with the company since its formation. The chairman, who was altogether unprepared for this episode in the entertainment, in a few hearty words, returned his thanks for the honour bestowed on him.

Major Edis, the original promoter of the architectural companies, proposed "Success to C Company of the Artists," and while he likened the miserable weather of that evening to that of the corresponding evening ten years ago, when the first members of the company were enrolled, he contrasted the then existing state of the Artists' Corps with its present largely increased numbers and efficiency. The C company has, as the result of the work of its tenth year, an effective roll of exactly 100 men, of whom no less a percentage than ninety-eight are efficient.

Simultaneously with the success of the C company, Captain Paice's Architectural Company has very largely increased during the past volunteer year.

SOCIETY OF ARTS.

The following arrangements for the Wednesday evening meetings previously to Christmas have already been made:—

Nov. 21.—Address by Deputy-Chairman of the Council, Mr. W. Hawes, F.G.S.

Nov. 28.—"The Telephone," by Professor Graham Bell.

Dec. 5.—"The Weak Points of the Elementary Education Code, with Suggestions for its Revision," by the Rev. E. F. M. MacCarthy. Sir Charles Reed, chairman of the London School Board, will preside.

Dec. 12.—"Freedom in the Growth and Sale of the Crops of the Farm, considered in its Bearings upon the Interest of Landowners and Tenant Farmers," by Mr. J. B. Lawes, F.R.S.

Dec. 19.—"State Aid to Musical Education, at Home and Abroad," by Mr. Alan S. Cole.

The Cantor Lectures,—Monday evenings:—

First course, on "The Manufacture of Paper." Six lectures by Mr. William Arnot, F.C.S.

Second course, on "The Application of Photography to the Production of Printing Surfaces and Pictures in Pigment," by Mr. Thomas Bolas, F.C.S; and

Third course, on "Some Researches on Putrefactive Changes, and their Results in relation to the Preservation of Animal Substances," by Dr. B. W. Richardson, F.R.S.

A course of three lectures on "Explosions in Coal Mines," will be delivered by Mr. T. Wills, F.C.S., in January and February.

PROPOSED NATIONAL TESTIMONIAL TO MR. ALLPORT.

POLICY OF THE MIDLAND RAILWAY COMPANY.

Sir,—The renewal in your columns of the advocacy of a public testimonial to the manager of the Midland Railway, Mr. Allport, raises a very important question. The *Builder* will do no small service to the commercial and industrial world if it throws such light on this question as shall lead to its satisfactory solution.

It must be admitted that there is a considerable difference between a public testimonial, to which the public are invited to subscribe, and one of those private felicitations which come within the limits of personal friendship. As to the latter, the public writer has nothing to say, unless it may be to express congratulation at any instance of private worth being brought to light, or at feelings of good fellowship gracefully made tangible.

As to the former, the case is altogether different. A public testimonial, from the days when Demosthenes strove for the crown down to our own, means much more than a general tribute to private worth. It partakes of the nature of what our foreign neighbours have taught us to call a demonstration. It must be founded on public service. If the nature of that public service be questionable, the onus lies on the proposers of the testimonial to show that the question has been decided in favour of the claim.

We had an example, which ought to be an instructive one, of the neglect of this wise distinction in the testimonial presented to Mr. Hudson. At the time when that gentleman held a position almost without precedent (unless it was in the yet more famous case of Law, and the excitement of the South Sea Bubble), it was proposed to show him public honour for having done so well for himself and for his friends. Some of us can remember the kind of arguments which was urged in order to procure subscriptions. Nor was the motive, in that case, far to seek. Whether the eager desire to appear on the list of subscribers so long as Mr. Hudson was believed to have the power to turn all that he touched to gold, or the savage reaction, when that power had vanished, by which the former flatterers took vengeance on the object of their caprice, was most disgraceful to the country, may be doubted. At all events, the lesson remains a very striking one. It should be maturely pondered by all those who promote public testimonials, or, at all events, by all those whose motive in so doing is more public-spirited than a mere desire to secure a "commission" on the subscriptions obtained.

In the present case, I have not a word to say either against the virtues which may adorn the private life of the gentleman to whom it is proposed to do honour, or in depreciation of the vigour and energy which he has devoted, for so many years, to the service of the Midland Railway. And if the shareholders of that railway, unsolicited, are disposed to show their appreciation of these qualities, the fact will be one calculated to encourage many a hard-worked, thoughtful, and deserving man.

But it is another thing if, as your correspondent states, copies of a letter from an anonymous individual being sent round to the London and provincial press, and paragraphs having been duly distributed, a local mayor is induced to propose a national testimonial and address. In order, in any way, to justify an appeal of this nature, it is necessary to show that the policy inaugurated by the Midland Railway, under the influence of Mr. Allport, is sound and wise. Nor is that a trifling question. If the policy be the true one, and as such affords a just claim for a national testimonial towards its author, it ought to become general. In fact, if the Midland theory be true, that of other lines, the directors of which decline to follow this policy, must be false. The presentation of such a testimonial, then, is an expression of opinion on the part of the subscribers that the main outlines of the Midland policy ought to be adopted by other companies. I am not either asserting or denying that such may be the case, but I must urge that it is essential for the promoters of the testimonial to prove that it is actually the case.

The Midland Railway is a truly colossal undertaking. Its paid-up stock and share capital, at the end of 1876, was 45,723,351*l.*; its loan and debenture capital was 13,683*l.*; and it had subscribed 4,679,812*l.* to other companies. Its revenue for that year reached the large figure of 6,245,218*l.*, or 10¼ per cent. on its capital. But we must regard, if we wish not to be dazzled, not so much the actual condition, as the progress and movement of the line, if we wish to form an impartial estimate of the policy which has piled up such a vast capital. The length of the Midland lines, which at the end of 1871 was 989 miles, was increased, by the end of 1875, to 1,139 miles. But the cost per mile, which was 42,161*l.* on the smaller distance, had risen to 47,806*l.* on the larger. The gross receipts at the same time had risen from 4,580*l.* to 5,211*l.* per mile per annum. Viewed in this light it may be said that the great increase of capital had produced a more than equivalent increase of business. So, in a sense, it has. But if we look to the net income per mile, which is the test to prove the wisdom of the policy adopted, we find that so far from having been increased by this great increase of capital, business, and consequent cost and danger, it has actually diminished. In 1871 it was 2,491*l.* per mile, in 1875 it had fallen to 2,416*l.* per mile. In consequence, the proportion of net receipts to capital, which in 1871 was 6·08 per cent., had fallen, in 1875, to 5·16 per cent. So that, in point of fact, the depreciation in the value of the Midland stock, during the four years in question, has been 15 per cent. The gross capital of the line has been raised from 41,696,999*l.* in 1871 to 54,449,216*l.* in 1875. That is to say, the shareholders have put their hands in their pockets for 13,752,217*l.* But the depreciation of earning from 6·08 to 5·16 per cent. is equivalent to a loss of more than eight millions sterling, so that the net movement of the four years has resulted in a subscription of thirteen millions and a loss of eight. If we take the figures up to the end of 1876, they will be still more instructive; but I confine myself to published authorities to prevent any risk of error.

Now, sir, no one can be more convinced than I am, that cheap fares are desirable for all parties. They increase the business of the railways, and they facilitate the general business of the country. But in order to do this permanently and efficiently they must not diminish the profits of the companies. If they do this it shows that there is some error,—some screw loose. The English companies have not yet made any approach towards the low fares of the Indian lines. The tariff for the third-class passengers is pretty much the same throughout the kingdom. As to giving facilities for the third-class traffic, it is now everywhere the rule, instead of being, as formerly, the exception. What the proprietors of railways, therefore, have to look forward to is the increase of their net profit by such an increase of traffic as pays. It is positive loss to induce gross traffic, unless there be a corresponding increase of net traffic. On the Midland this positive loss has occurred. Capital per mile has been increased 13·5 per cent., gross traffic has increased in a somewhat larger proportion. Net traffic has declined. This does not come before the world as a satisfactory result of a model policy.

Your correspondent, "Gratitude," may perhaps be able, in some way which I cannot anticipate, to show that a policy which has reduced a net earning of over six per cent. to one of under five per cent. in five years is a good policy. If he can do so, he has a good basis for claiming a national testimonial for the author of the policy. And, at the same time, such a testimonial will be a significant hint to the directors of other lines to change their hands.

But if the proposers of a national testimonial cannot do this,—not as matter of vague sentiment, but as matter of practical businesslike common-sense, they are bound, and all who stir in the matter are bound, to confine their claims to those of mere personal good feeling. For a national testimonial to be given in honour of a policy which has reduced the net earnings of a line from six to five per cent. is, as it appears at present, something like a contradiction in terms.

R. B. R.

UNSANITARY "MODEL" BUILDINGS AT PECKHAM.

The Camberwell Vestry have induced the Metropolitan Board of Works to take action in respect of certain new model lodging-houses which are now in course of erection by Mr. W. Nunn, a builder, in Choumert-road, Peckham. At the meeting of the Metropolitan Board last week, a letter was read from the Vestry of Camberwell, drawing the attention of the Board to these houses, which it was stated were defective in construction, especially as to their want of sanitary appliances, and requesting that an officer of the Board might be instructed to examine the buildings and report thereon, the Vestry being of opinion that it was not desirable that the buildings should be allowed to proceed towards completion if any steps could be taken to stop their further progress. Mr. Dresser Rogers, in supporting the request contained in the Vestry's letter, said that this was a most important question, affecting the metropolis at large. At the present time the Board were taking steps, at considerable expense and trouble, under the orders of the Artisans' Building Acts, to pull down old buildings in the metropolis, and replace them with others of improved construction. The Vestry of Camberwell, being aware of that fact, spoke very strongly on this matter, because they felt strongly upon it. It would be found that whilst many houses were being pulled down, they were being replaced by houses of a far worse description than those originally existing. In the present instance the sanitary arrangements of the houses erected in Peckham were exceedingly defective. Unless the Board stepped in to put a stop to this style of building they would find that all over London the rookeries which had been condemned would again arise, to the great detriment of public health. He moved that the matter should be referred to the solicitor. Mr. Selway, in seconding the motion, suggested that the district surveyor, who appeared to be implicated in the matter, should be requested to attend before the Works Committee to explain the matter. The proposal was adopted, and the alleged defective character of these buildings will now be fully inquired into.

CERTIFICATES.

Sir,—I am much pleased with your answer to an over-clever correspondent. It is quite time that a little more practical common sense was introduced into sanitary matters, and less theoretical (so-called) nonsense published. What a strange thing it is that we have not a reliable society within reach of the practical mechanic, where the architect, doctor, plumber, and all interested in sanitary matters could meet and hold discussions, and where certificates of competence could be given. When you see the great variety of fever-traps, called water-closets, and the absurdities of the new water-companies' regulations, &c., it should be a matter of surprise that there is not more sickness. You little know, sir, the great boon you would confer on society at large if you could, by the aid of your paper, promote a society of this description, in whose certificates the public would have confidence.

C. W. T.

MANCHESTER BATHS COMPETITION.

Mr. J. G. Lynde, the Manchester city surveyor, is good enough to inform us that the following is the result of the competition designs for baths and washhouses for this city. Thirty-one sets of plans were sent in, out of which three bearing the following mottoes have been selected for premiums by the committee, and approved this day by the council. For the first premium of 200*l.*, the design bearing the motto "Economy well considered," by Mr. J. Johnson, of Queen Victoria-street, London; for the second premium of 100*l.*, the design bearing the motto "Experience," by Messrs. Mangnall & Littlewood, of Brown-street, Manchester; for the third premium, of 50*l.*, the design bearing the motto "Concilio et Labore," by Mr. J. Lowe, of Mansfield-chambers, St. Ann's-square, Manchester.

The designs have been open for exhibition to the public at the Town-hall during the whole of the week.

THE MASONS' STRIKE IN LONDON.

The masons' strike still continues. On Saturday last the Masons' Strike Committee had a busy day, as the strike pay of 18s. per man had to be paid to about 700 men who were on the strike roll, and although a large number of these receive their pay at their own lodges, a very considerable number, including such foreigners as now remain on the roll, receive their money at the committee-rooms. The amount paid in this way to the men on strike was about 630*l.* The expense of sending away the Canadians, Italians, and Germans in the earlier part of the week, brought the week's disbursements up to about 900*l.* On the other hand, the receipts from the country have been about 100*l.*, and this, with the regular levies, swelled the total income of the week to about 1,000*l.*, so that the balance in hand considerably exceeded that at the end of the previous week, being over 400*l.* The masters have issued the following notice:—

"The Central Association of Master Builders of London, No. 3, Westminster-chambers, Victoria-street, S.W., to the American and Canadian masons and stonecutters lately arrived.—Notice is hereby given to any of the above who have not commenced work under their contracts that

unless the Americans present themselves at Mr. Booth's works at the Temple, and the Canadians at Messrs. Dove Brother's works, Studd-street, Islington, on or before Wednesday morning next, the 14th inst., they will be considered to have broken their contracts, and will render themselves liable to legal proceedings.—Stanley G. Bird, hon. sec.; Chas. Goolden, secretary."

The Strike Committee have commenced an action for the damages occasioned by the detention of tools.

On Tuesday afternoon a large meeting of master builders was held at the Westminster Palace Hotel, Mr. G. F. Trollope in the chair. The secretary reported that they had offers on hand from the Continent of no less than 1,000 good and efficient masons ready to come over and commence as soon as arrangements could be made.

A motion was passed expressing approval of the action taken by the committee since last general meeting, and stating that the meeting saw no reason for any alteration in its present course. The following resolutions were also passed:—

"That the committee be empowered to continue to bring over foreign workmen, beyond those now engaged abroad and on their way to this country."

"The Central Association of Master Builders of London tender their best thanks to those provincial associations who have expressed their sympathy and offered their assistance during the strike, and hereby authorise the committee to accept such assistance, more especially with a view of bringing to London such masons as are out of employment in the provinces."

A letter from the masons requesting a conference was left to be answered by the committee, after a unanimous expression of opinion that no such conference should be agreed to.

FLITCROFT'S MONUMENT.

Sir,—It is nineteen years, four months, and five days since Peter Cunningham asked me to accompany him to Teddington, to see the monument of Flitcroft, the architect. Passing the other day, I found the church had been renovated, and that Flitcroft's Monument had been much detrimented. A portion of the Wedgwood-like vase of the period is gone, and no one would read the inscription if he had not had his attention drawn to it. I have heard that architects are, as a rule, penurious, and that they have little sympathy one with another. I knew Sir John Soane, and agreed well with him. Tite gave the Cocked-Hat Club once a dozen of champagne,—but that might have been for the *éclat* of the thing. Talbot Bury always gave me a good cigar, and Ashpitel gave a glass of good wine. But your knowledge of them is greater, and therefore you will know if it is likely you could get a few shillings together for the proper restoration and protection of this monument. There is a man near me who would be glad to do it, and I think it is just in his way. He was the right hand of poor Durham. An Old Boy.

*** We will take our part in the work with pleasure if anything can be usefully done.

ARCHITECTS' ACTIONS.

PUGIN AND THE EASTERN COUNTIES AQUARIUM COMPANY.

A claim was made in the winding up of this company, in the High Court of Justice, Chancery Division, by Mrs. Pugin, the widow of the late Mr. Edward W. Pugin, architect, and Mr. Calder, formerly his assistant, for a sum of 625*l.*, alleged to be due to Mr. Pugin and Mr. Calder, in respect of plans and drawings prepared by them for the erection of an aquarium at Yarmouth. The company was originally projected and promoted by a Mr. Leather and other parties in the year 1872, when Mr. Pugin was employed to prepare the plans for the building.

The company was registered in February, 1873, and the articles were signed by seven persons, who took eighty shares between them. A prospectus was issued containing the names of seven gentlemen as directors,—namely, Lord Claud Hamilton, Mr. H. Buxton, Mr. J. Goodson, Sir Edward Lacon, the Hon. Ashby Ponsonby, the Hon. Frederick Walpole, and Mr. Wolverton; and at the first meeting of the directors the plans prepared by Mr. Pugin, which were of an elaborate description, were approved of, and he was requested to make further plans for carrying out the buildings in sections. This was effected; but the company were unable to obtain sufficient money to carry out the undertaking, and the project failed, and the money already subscribed was repaid to the shareholders. The directors had taken an indemity from Mr. Jackson, the contractor, and several of the persons to be employed in carrying out the buildings, that, in case the capital could not be collected, there should be no liability to the company in respect of the contracts entered into with them; but, in the case of Mr. Pugin, no such indemnity was required. The defence to the claim was, that Mr. Pugin was employed by the promoters of the company before any company was actually framed or directors appointed, and was himself one of the promoters; and that these plans and drawings were only prepared provisionally, and in case it should turn out that sufficient capital could be procured; and further that no formal steps were ever taken by the directors to sanction the employment of Mr. Pugin to carry out the plans.

The Vice-Chancellor (Malins), without calling upon counsel for the defence, said he regretted being compelled to decide against this claim; but it was clear, in his opinion, from the evidence, that the work carried out by Mr. Pugin, as well as by the contractor, was done upon the understanding that if sufficient capital could not be obtained to start the company, there would be no liability incurred by the directors. The money was not obtained, and what had been subscribed was returned to the shareholders. Under these circumstances his Lordship was of opinion that the claim by Mr. Pugin and Mr. Calder would not be supported as against the company, whatever they might be against the persons by whom Mr. Pugin had been employed, and the summons must, therefore, be dismissed, with costs as regarded the adjournment into Court, and without costs as regarded what had been done in Chambers.

Some letters on this subject have reached us, too late for consideration till next week.

THE DESIGN IN CLEOPATRA'S NEEDLE.

Sir,—In your issue of the 27th of October last you record a fact which has not, I believe, hitherto been made known, viz., that the base of the obelisk is not square on plan, but an oblong, measuring 7 ft. 5 in. on two of its sides, and 7 ft. 10½ in. on the other two. This inequality of width in the base of an obelisk which was placed in a city probably at that time the centre of art and literature, could scarcely have been the result of an accident, and it has occurred to me that on æsthetic grounds there may have been some special reason for it. It is well known that a column or obelisk, when seen in an open space against the sky, loses somewhat of its apparent diameter; in other words, the bright light behind encroaches upon it. Now, these obelisks were placed in front of the great pylons or gates to the temples, in some cases lofty masses of masonry 300 ft. long, and when viewed in front, with the pylons behind, the diameter of the obelisk would retain the apparent value of its real width; but when seen from the side, with the clear sky behind, the real width would be diminished in appearance. If there is any truth in this theory, the narrower sides of this obelisk must have been placed parallel with the walls of the pylon, and the greater width of 7 ft. 10½ in. would, with the sky behind it, have had an apparent width of 7 ft. 5 in.; or, in other words, the obelisk would seem to have a square base. This important fact ought to be taken into account in deciding upon the site on which the obelisk should be erected.

R. Phené Spiers.

THE ARCHITECTURE OF LIGHTHOUSES.

Sir,—I have read your excellent article under the above heading with especial interest; for it chanced to be perused amidst the one hundred and forty isles which, some distance out in the Atlantic, help to form the group of Scilly,—a spot, of all places in the world, where light should be appreciated.

Pray permit me to remind you, as a sort of supplement to your interesting account of the Eddystone, that this well-known lighthouse is doomed, and will, no doubt, at an early date, be taken down. It is not its masonry, nor anything connected with the general construction, that is at fault; the weak point lies in the foundations. The rock upon which the structure stands is, if I may use the expression, literally rotting away. Whether the Eddystone will be rebuilt upon a surer basis, or whether the whole pile of rocks upon which it stands will be blown up—as those which obstructed New York harbour so recently were—remains, I believe, for the present, an unsettled question. Harry Hems.

St. Mary's, Scilly Isles.

Victor Emanuel Gallery, Milan.—The architect of this gallery, Signor Mengini, directed that a part of the interior walls should be treated with the petrifying liquid of the Silicate Paint Company, Liverpool and Cannon-street, in order to observe the effect of the material. It was watched for the term of two years, and the result was so satisfactory to the architect that the municipality were recommended to apply the liquid throughout the structure. A special scientific investigation was, however, directed to be undertaken by the official assessor. The material having undergone this ordeal, a contract for a supply has been entered into with the company.

DISPUTE AS TO WATER-SUPPLY.

OLDHAM *v.* THE CORPORATION OF LEAMINGTON.

In the Warwick County-court, on the 6th inst., an action was brought by Mr. John Oldham, contractor for supplying water to Leamington, to recover 49*l.* from the Corporation of that town for water supplied to that town over and above the quantity which he was required to supply. Mr. Young (instructed by Mr. Sanderson) was for the plaintiff; and Mr. Buszard, Q.C. (instructed by Mr. Passman, Town Clerk), was for the defendants.

The plaintiff's contention was that according to the terms of his contract, after giving due notice to the Corporation, he was entitled to charge 7d. per 1,000 gallons, instead of 1½d. for any quantity supplied over 500,000 gallons per diem. After hearing Mr. Buszard and Alderman S. T. Wackrill (the chairman of the Waterworks Committee), the judge held that the plaintiff's case had been completely rebutted, and that he was not entitled to the extra charge. The contract must be read in its entirety, and the mere fact of the plaintiff giving the Corporation the notice which he had done did not constitute a bargain to pay the additional amount, unless the Corporation assented to the new contract. He therefore gave judgment for the defendants, with costs.

Re GRAVING DOCK, BLACKWALL.

Sir,—Allow me to add to the account of the above graving dock now being constructed for Messrs. R. & H. Green, which appeared in your issue dated the 3rd inst., the following names in connexion with the works, viz.,—Messrs. Kinipple & Morris, consulting engineers, and their resident representative, Mr. A. Nelson Barnes; Mr. W. R. Mace, agent for the contractors (Messrs. G. Baker & Son), from whom Mr. H. B. Chapman receives his instructions in the capacity of engineer. W.

Miscellanea.

The President's Address, Institute of Architects.—We stated in our last (p. 1124) that we had received an intimation from the Institute that the President's address was not to be given *in extenso*. The intimation came to us through our reporter, who seems to have misunderstood what was said. We are glad to find this to be the case.

The Water Supply of London.—A special meeting of the Metropolitan Board of Works was held on Wednesday last to receive a report from the Works and General Purposes Committee on the question of the Board taking under their control the water supply of the metropolis, purchasing the interest of the existing companies, and extending the works. The committee considered it indispensable that the Board should submit a perfect scheme to Parliament so as to include the purchase of the water companies and the providing of a pure supply of water for drinking purposes. They advised that separate Bills should be prepared for those purposes, and had given instructions to the Parliamentary draughtsman to that effect. As regarded the new works, the committee drew attention to the fact, as furnished by the estimates of the engineers (Messrs. Bramwell & Easton and Sir J. W. Bazalgette), that by the execution of these operations, instead of the enlargement of the existing undertakings, which would otherwise become necessary, an annual saving of 112,250*l.* would be effected. The report was adopted by a considerable majority. We stated a month ago (p. 1036, *ante*) that the Committee had agreed to recommend the adoption of the scheme.

The New School of Art at Macclesfield.—The foundation-stone of the new building for the Macclesfield School of Art was laid on the 6th inst. The building will have a frontage of about 73 ft. to Old Park-lane, and will be erected close up to the librarian's house, adjoining the Free Library, so that there will be an unbroken line of building from the Free Library corner. The building will occupy the whole plot to the extent of Paradise-passage, to which it will have a frontage, the dimensions from back to front being at the widest part about 50 ft. A good portion of the ground-floor space is devoted principally to science. There will be a room 28 ft. by 17 ft. for science only, and in convenient contiguity, a laboratory and appliances for the practical study of chemistry. A large lecture-room, 45 ft. by 28 ft., on the ground-floor, will be a feature of the arrangements.

"Brief," a weekly epitome of current news, thought, and criticism, is the newest venture in journalism. It promises, for one penny per week, to be "at once a short record of noteworthy events, a compendium of the manifold wit and wisdom of the entire Press, and a useful, handy repertory of facts, dates, and opinions, for future reference,—concentrated essence of Press, in fact." If the programme which the projectors have set themselves is well carried out,—no very easy thing to do,—the new paper will find hosts of readers amongst those who have not time to wade through the daily papers.

American Edge-tools in Sheffield.—The New York correspondent of the *Sheffield Independent* writes, under date of October 26th, as follows:—The bulletin of the American Iron and Steel Association says:—

"We are reliably informed that a prominent cast-steel manufacturing firm of Sheffield have been purchasing for some time American edge-tools and implements, made of American iron and steel, through their agency in Philadelphia, which they distribute among their English, South American, and Colonial trade. A recent order from them for axes was placed with Wm. Mann & Co., whose works are at Lewistown, Pennsylvania. We are informed that Park, Brother, & Co., of Pittsburgh, chiefly supply these works with steel. Steel spring and edge-tools are constantly being forwarded to this English house; in one week 650 dozen steel hay-forks were sent, made of American steel, by Sneble & Fisher and Myers & Ervien, of Philadelphia."

Is this true? That American pattern edge-tools and hay-forks are very popular there is not the slightest doubt, but can it be possible that American steel is also becoming more popular than that produced in Sheffield?

The Tyne Shipbuilding Trade.—Local papers show that the Tyne trade is now greater than that of all Scotland put together; but while this is the case, the shipowners do not limit their operations to their own port, but Newcastle ships and skippers trade to and from every port in the United Kingdom to every quarter of the world. While this is the case here, the reports that come from the Continent about the shipbuilding there are most gloomy. In Germany, Denmark, and Sweden, the larger proportion of the limited companies are winding up, and most of the shipyards there have taken the form of limited companies,—one large establishment, which cut out in price some of our Tyne shipbuilders, and built steamers which now trade to that river, winding up after four years' work with a loss, it is stated, of not less than 60,000*l.*! Four or five years ago, one hundred sailing-vessels were building on the Italian coast of the Riviera, between San Remo and La Spezzia; now there are less than half a dozen. Compared, therefore, with foreign nations, our condition is not so bad; but it must not be forgotten that, after all, our shipyards are a long way off full work. At the very least their machinery could turn out double the present rate of production; and Walker, Hebburn, Wallsend, and Jarrow present a melancholy array of empty houses.

Weston Park Museum, Sheffield.—A large collection of archæological objects and works of art has recently been contributed to the Weston Park Museum, Sheffield, by the Rev. Greville J. Chester, M.A. Among them are some fine statuettes and groups in ivory, of Portuguese work, numbering about forty specimens. These are all religious in character, and many of them excellent in workmanship. They consist of figures of saints in various attitudes of devotion, representations of the Madonna and Child, and of the Crucifix, with various other subjects, including a wooden figure of St. Joseph, with ivory head, and a similar representation of S. Antony, of Padua. There is also a group in ivory, of Spanish work, representing a Pietà, the blessed Virgin seated and holding the dead body of our Lord upon her lap. Upon the walls of the picture-gallery are several oil-paintings lent by Mr. Chester, who has also lent a large number of ancient Etruscan, Greek, and Roman bronzes, and numerous pieces of English and Continental pottery.

The Edinburgh and Leith Masons.—The master builders of Edinburgh and Leith have given notice of a reduction to 9d. per hour, being the rate agreed upon by the operatives and employers as the standard wage for the year. Owing to the busy season which has now closed, a general advance was made to 9½d. per hour, the higher rates of 9½d. and 10d. being paid in the outlying suburbs. The finishing of most of the work in hand and the influx of masons from country jobs is considered by the masters to warrant the reduction now proposed, which commences from and after this date.

Ramsgate Improvements.—A meeting has been held in the Town-hall to discuss the advisability of taking steps with a view to obtaining an Act of Parliament for the improvement of the town. The meeting was quite unanimous as to the desirability of something being done, but there was a slight difference of opinion as to whether action should not be deferred for another year. The majority, however, were of opinion that now was the proper time to go on with it, and to test the feeling of the ratepayers upon the question. After about an hour and a half's discussion a resolution was carried almost unanimously to the effect that the matter should be brought before the Local Board, with a view to taking the necessary steps for obtaining a severance from the town of Sandwich, and obtaining a charter of incorporation.

Tramways Vetoed at Brighton.—Application has been made to the local authorities at Brighton for their consent to the construction of a tramway within the boundaries of that borough. The applicants proposed to lay down lines from Preston,—the northern suburb of the town,—to the Pavilion, in the centre of the town, and also to have a spur running as far as the Lewes-road Cavalry Barracks, also at the northern quarter of the borough. The committee who received the application recommended the town council not to entertain it, and the council have unanimously approved the committee's recommendation.

The Horsham Monastery.—A correspondent says,—You mention the Horsham Monastery. Some months ago I paid a visit to it. The architects, M. Normand and his son, do not speak English. It is an enormous building, and planned after the fashion of the Charterhouse, the description of which is given in M. Viollet-le-Duc's Dictionary. The monastery is called "Parkminster," and is more than ten miles from Horsham. The works are not being done by contract, but on the French system. M. Normand has built other houses of the same kind abroad. The money comes from France.—H.

An interesting Investigation is being made of the several localities in the course pursued by Cæsar and his forces, in the *Liger* (*La Loire*) and round the coast, to the *Mare Conclusum* (bay of Quiberon), where the great naval fight took place between Cæsar's triremes and the fleet of the Veneti, the ships of which were furnished with leather sails. Dr. Phené, who is making the investigation, is also taking drawings and making casts of the principal engraved stones in those localities.

A Grammar School for Oxford.—At a special meeting of the Oxford Town Council, held on the 6th inst., it was resolved to establish a first-class grammar school, the corporation granting a site in the centre of the city of nearly an acre, and 4,000*l.* towards the building, as well as 100*l.* per annum towards its maintenance. There are to be fifty free scholarships tenable for three years, thirty of which are to be filled up from the public elementary schools.

The Harrow-road Improvement.—On Saturday last, what is known as the Harrow-road improvement, was opened to the public by Sir James M'Garel Hogg, the chairman of the Metropolitan Board of Works. The improvement consists in the widening of Harrow-road, and has cost about 195,000*l.* The road has been made 60 ft. wide throughout, the narrow portion forming the entrance having been formerly only 35 ft. wide in parts.

The King's School, Bruton, Somerset.—Extensive works are just commenced at the ancient King's School of Bruton, by the sanction of the Charity Commissioners, and include an extension of the dining-hall, new dormitories, offices, sick-rooms, &c. Messrs. Carpenter & Ingelow are the architects, and Messrs. Clarke & Son the builders.

The Institution of Civil Engineers.—At the first ordinary meeting of the session, held on the 13th inst., Mr. George Robert Stephenson, president, in the chair, the paper read was a "Review of the Progress of Steam Shipping during the last Quarter of Century," by Mr. Alfred Holt, C.E., of Liverpool.

Our Obelisk.—At the opening meeting of the British Archæological Association (32, Sackville-street), to be held on Wednesday evening next, the 21st, Dr. Birch will read a paper on "The Obelisk known as Cleopatra's Needle."

Compensation Case.—A claim for compensation made against the South-Western Railway Company with reference to land at Frimley, Surrey, has been settled. About two years since Mr. Kelsey, the freeholder and occupier of some hundred acres of meadow-land, was served with a notice to treat for seven acres of the land in question, and as the company made no offer the case went to a jury. Mr. Cole, Q.C., and Mr. Eyre Lloyd were counsel for the claimant; and Mr. Marriott, Q.C., and Mr. Percy Gye for the company. Mr. Geo. Fuller (land agent, surveyor, and valuer, of the firm of Fuller & Fuller) had the conduct of the case on behalf of the claimant, and his valuation before the Under-Sheriff, Mr. Abbott, and a special jury, amounted to 1,998*l.* 10*s.*, and these figures were supported by Mr. Saunders, Mr. Withall, and Mr. Eggar. The company called Mr. Christopher Oakley (of the firm of Danl. Smith, Son, & Oakley), whose figures amounted to 882*l.*, and the same view was taken by Mr. Pink, of Winchester, Mr. Buckland, of Cannon-street, and Mr. Ryde, the company's surveyor. The jury returned as follows:—For the seven acres of land taken, 700*l.*; general severance, 475*l.*; special severance, 508*l.*; for the tenant's interest in other small holdings, 115*l.*—total, 1,798*l.*

Sanitary Works for Great Malvern.—On the 7th inst. Mr. Arnold Taylor, Inspector from the Local Government Board Office, held an inquiry relative to an application made by the Local Board of Malvern for powers to borrow, on security of the General District rates, the sum of 14,000*l.* for works of sewerage, and 3,500*l* for works of water supply.

TENDERS.

For mission-hall, St. Silas's, Toxteth Park, Liverpool. Messrs. T. D. Barry & Son, architects. Quantities supplied:—

Appleton	£1,499	0	0
Woolfall & Williams	1,451	0	0
Roberts	1,419	0	0
Pears & Gill	1,386	0	0
Titterington	1,376	0	0
Yates	1,375	0	0
Jones	1,373	0	0
Smith	1,267	0	0
Mather	1,250	0	0
Tyson	1,209	0	0
Brown & Backhouse	1,208	0	0
Black & Toul	1,200	0	0
Thornton & Son	1,200	0	0
Nicholson & Ayre (accepted)	1,147	0	0

For the erection of the David Thomas Memorial Church and Schools, at Bishopston, Bristol. Mr. Stuart Colman, architect. Quantities by Mr. Deane:—

Veals	£7,660	0	0
Eastabrook & Sons	7,584	0	0
Baker & Sons	7,332	0	0
Hill & Prior	7,285	8	7
Davis	6,990	0	0
Wilkins & Hill	6,726	0	0
Banner	6,678	0	0
Stephens & Bastow	6,676	0	0
Lewis & Edbrook	6,611	10	0
Hatherley	6,283	0	0
Cowlin & Son	6,237	8	0
Howell (accepted)	5,868	0	0

For the erection of Board schools for the Clee-with-Weelsby School Board. Mr. Charles Bell, architect. Quantities by Mr. Henry Lovegrove:—

Darby	£4,189	0	0
Fidler	4,052	0	0
Fletcher & Thompson	4,035	0	0
Thompson	3,999	0	0
Brown	3,727	0	0
Haywood	3,696	0	0
Hobson	3,659	0	0
Hensman	3,583	0	0
Snowden	3,579	0	0
Hutcliffe	3,515	0	0
Farrow	3,466	0	0
Smith	3,3[illegible]5	0	0
Ruggall	3,236	0	0
Topham	3,2[illegible]0	0	0

For the erection of new offices, Black Horse-yard, West-street, Bristol, and heating same, for Mr. Joseph Hennessey. Mr. W. Cloutman, architect. Quantities supplied:—

Wilkins & Son	£410	16	0
Cunningham	390	0	0
Lewis & Edbrooke	359	0	0
Hill	333	0	0
Wilkins & Hill	329	5	0
James	315	0	0
Hatherley	3[illegible]8	0	0
Eastabrooke & Son	3[illegible]7	0	0
Davis	289	0	0
Phillips (accepted)	286	10	0
Calder (without heating)	3[illegible]8	3	4
Banner do.	280	0	0
Hayes do.	253	0	0

For alterations, new offices, &c., to premises, Plymouth, for Messrs. Newbery & Hallett, tea merchants. Mr. H. Elliott, architect:—

Bishop & Son	£250	0	0
Foot	249	0	0
Tremain & Son	227	0	0
Treleaven (accepted)	216	0	0

For the fifth contract of the Cadogan and Hans Place Estate Co. Mr. John Ashdown, architect. Quantities by Mr. W. C. Poole :—

Pearson	£2,726 0 0
Mowlem & Co.	2,670 0 0
Nowell & Robson	2,580 0 0

For the erection of a block of industrial dwellings, Church-street, Chelsea, for Miss C. E. Stephen. Mr. Elijah Hoole, architect :—

	Cement flat roof.	Slate roof.	Extra for iron joists to flat roof.
Haydon	£6,850 0	£7,000 0	£100 0
Warne & Co.	6,830 0	6,940 0	92 0
Carter	6,588 0	6,768 0	85 0
Prout	5,793 0	5,943 0	100 0
Nightingale	5,628 0	5,698 0	50 0
Julian & Co.	5,036 0	5,036 0	nil.
Beale	4,890 0	4,825 0	21 0

Accepted for the enlargement of the North-Eastern Hotel, Goole. Mr. William Watson, architect :—

Fawcett (brick and stonework)	£1,000 0
Stewart (slating)	116 0
Walsh & Son (plastering)	239 0
Gibson (carpenter and joiner's work)	863 0
Backhouse (plumbing, glazing, and ironwork)	240 0
Butler (painting)	41 10

Accepted for restaurant, shops, and offices, for the Borough Market Co., Wakefield. Mr. Wm. Watson, architects :—

Bagnall, Bros.	£1,154 16 0

Accepted for altering the old slaughter-houses, Wakefield, for the Borough Market Co., Wakefield. Mr. Wm. Watson, architect :—

Bagnall, Bros. (all except iron)	£390 0 0
Shillitto & Harrison (ironwork)	353 0 0

Accepted for enlarging Bellevue Chapel, Wakefield. Mr. Wm. Watson, architect :—

Langton & Others	£404 10 0

Accepted for enlarging the Westgate Board schools, Wakefield. Mr. Wm. Watson, architect :—

Fawcett and Others	£325 15 10

Accepted for a warehouse, Westgate Common, Wakefield. Mr. Wm. Watson, architect :—

Dunn and Others	£360 15 6

For stabling at Pentonville, for Messrs. Brewis, Bros. Mr. Banister Fletcher, architect :—

Champion	£1,844 10 0
Terry	1,634 10 0
McCowan	1,525 0 0
Shapley	1,450 0 6
Bayes, Bros., & Allen (accepted)	1,398 0 0

For workshops at Radnor-street, for Messrs. Smith & Gale. Mr. Banister Fletcher, architect :—

Trill	£841 0 0
Angood	757 0 0
Hobern (accepted)	750 0 0

For sheds for Patent Straw Co., Paddington. Mr. E. H. d'Avigdor, engineer :—

Design No. 1.

Whiteley	£1,723 0 0
Young & Co. (corrugated iron)	1,652 0 0
do. (zinc)	1,627 0 0
Tildesley	1,320 0 0
Handyside & Co.	1,264 13 5
Cochrane & Son	1,241 0 0
J. O. & C. E. Brettell	1,219 19 6
Dixon & Co.	1,698 0 0
Head, Wrightson, & Co. (iron-work only)	690 0 0

Design No. 2.

Elford	817 0 0
Whiteley (accepted)	800 0 0

For Maidstone drainage. Mr. Lewis Angell, engineer. Quantities by Mr. D. W. Young :—

Contract No. 2.—Concrete Sewage Tanks.

Botterill	£6,663 0 0
Lewis & Co.	4,900 0 0
Nowell & Robson	4,800 0 0
Downs & Co.	4,790 0 0
Neave & Sons (accepted)	4,119 0 0

Contract No. 3.—Main and Branch Sewers.

Botterill	£48,500 0 0
Downs & Co.	29,450 0 0
Nowell & Robson	37,500 0 0
Fordham & Co.	26,000 0 0
Neave & Sons (accepted)	21,450 0 0

For converting No. 53, Highgate-road, Kentish Town into a shop, building coachhouse and stable, &c., for Mr. Wm. Jones. Mr. J. R. Furniss, architect. Quantities supplied :—

Scrivener & White	£1,183 0 0
Wall, Bros.	1,090 0 0
Manley & Rogers	1,065 0 0
Row	990 0 0
Gould & Brand	977 0 0
Durnford, Bros.	937 0 0
Taylor & Son (accepted)	918 0 0

For the erection of two shops, Nos. 3 and 4, Donegal-place, High-road, Clapton, for Messrs. A. Webb & P. Dashwood. Mr. Robert Blackmore, architect :—

Niblett (accepted)	£1,285 11 0

For repairs and alterations to the Sycamores, High-road, Clapton, for Messrs. A. Webb & P. Dashwood. Mr. Robert Blackmore, architect :—

Brassington (accepted, subject to alterations)	£250 0 0

For the erection of two shops in Orford-road, Walthamstow, for Mr. F. A. Winter. Mr. Robert Blackmore, architect :—

Brassington (accepted, subject to alterations)	£1,500 0 0

For villa residence at Highgate, for Mr. C. Catling. Messrs. Gordon & Lowther, architects :—

Colls & Son	£2,987 0 0
Grover	2,984 0 0
Goodman	2,978 0 0
Browne & Robinson	2,829 0 0
Williams & Son	2,820 0 0
Little	2,799 0 0
Tomms	2,790 0 0
Harper	2,760 0 0
Shapley	2,755 0 0
Kerry	2,749 0 0
Larkin & Son	2,670 0 0

For alterations and additions to "Hurstbourne," Dorking, Surrey, for Mr. S. Smith. Messrs. Lander & Bedells, architects :—

Grover	£1,855 0 0
Godden & Son	1,760 0 0
Haselgrove	1,735 0 0
Axford	1,725 0 0
Shapley	1,655 0 0
Amblan	1,500 0 0

For Workhouse, Camberwell. Messrs. Berriman & Son, architects. Quantities supplied by Messrs. Pollard & Gardener :—

Braid & Co.	£59,900 0 0
Carter & Son	59,645 0 0
Wagner	58,960 0 0
Sheffield & Prebble	57,685 0 0
Tarrant & Son	57,626 0 0
Howard	56,842 0 0
Perkins & Co.	56,826 0 0
Shapley	56,700 0 0
Hunt	56,475 0 0
Kirk & Randall	56,432 0 0
Downs & Co.	56,030 0 0
Bangs & Co.	55,940 0 0
Hart	55,260 0 0
Nightingale	54,541 0 0
Croaker	54,332 0 0
Perry	54,000 0 0
Jesselyne	53,858 0 0
Chapple (accepted)	53,674 0 0
Brealy	53,000 0 0

For shop-front, &c., at Junction-place, Hackney. Messrs. W. Waymouth & Son, architects :—

Niblett	£98 15 0
Shurmur (accepted)	79 0 0

For road and sewer, Trinder-road, Crouch-hill. Messrs. W. Waymouth & Son, surveyors :—

Sawyer	£798 0 0
Crockett	699 0 0
Jay	670 0 0
Taylor	664 15 0
Rowley (accepted)	649 6 8

For road and sewer, Shaftesbury-road, Crouch-hill. Messrs. W. Waymouth & Son, surveyors :—

Rowley (accepted)	£818 0 0

For roads and sewers, Poynder's and Mercers' Estate, Upper Holloway. Messrs. W. Waymouth & Son, surveyors :—

Bloomfield	£2,152 0 0
Jay	2,150 0 0
Niblett	2,059 0 0
Rowley	1,988 0 0
Bowley (accepted)	1,873 10 0

For repairs to No. 16, Thavies Inn, Holborn. Messrs. W. Waymouth & Son, architects :—

Shurmur (accepted)	£112 0 0

Manufacture and Supply of Gas to Sandhurst College and York Town.—The Government have accepted the tender of Messrs. Chandler & Sons, of Newington-causeway, for the above, for a term of six years. The annual consumption is from ten to fifteen million cubic feet.

TO CORRESPONDENTS.

Obelisk (we cannot give space for the repetition of propositions already made, and, to our mind, not wise ones).—E. B. (complete list ought to be sent).—W. W. (list sent was erroneous).—J. T. (next week).—G. R. (extract was not enclosed, and letter sent to us was intended for another journal. Precision is very desirable in an architect).—A. S. (too late for present issue).—M. P. (ditto).—Schools of Design (ditto).—E. H.—B. & Son.—J. S. S.—J. R. F.—L. B.—R. C. P.—C. W. T.—F. W.—C. C.—P. F.—W. L. S.—R. P.—M. S.—M. & L.—Dr. D.—W. T. F.—Paterfamilias.—Rev. H. T. E.—A. F.—L. R.—W. G. S.—J. D. & Sons.—A. & B.—C. H. S.—R. F.—C. & Sons.

We are compelled to decline pointing out books and giving addresses.

All statements of facts, lists of tenders, &c. must be accompanied by the name and address of the sender, not necessarily for publication.

NOTE.—The responsibility of signed articles, and papers read at public meetings, rests, of course, with the authors.

Advertisements cannot be received for the current week's issue later than THREE *o'clock p.m. on THURSDAY.*

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